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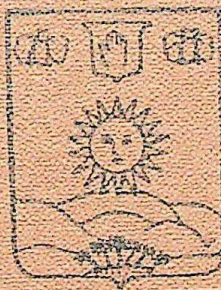
THE EXCAVATIONS
AT
MAHESHWAR AND NAVDATOLI
1952-53

By

HASMUKH DEBILKAR SANKALIA

BENDARDIN SUDHAKAR

SUNTARAM BHALCHANDRA DEO



POONA - 1953 - BARODA

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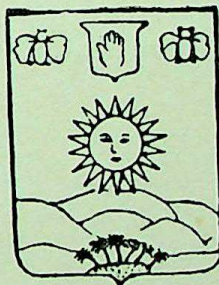
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बौद्धिक संस्कृति पुस्तकालय
को० बाक्स ८, बनारस-१.

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देव्यै नर्मदायै ।

FOREWORD

Archaeological excavation and its adequate publication are not only expensive, but also need an amount of trained staff. Particularly is this true of India, where public interest is not sufficiently aroused, and hence raising of large funds and the availability of personnel is always a problem for research institutions and universities. Co-operation between various institutions and co-ordination of efforts in any discipline is a prime necessity. It was with this idea that the Maharaja Sayajirao University and the Deccan College Post-graduate and Research Institute came together in 1952—in fact, since the inception of the Department of Archaeology in the M.S. University in 1950, these have been working in close co-operation—on a hitherto neglected problem of Indian archaeology. The aim of this joint venture, the first of its kind in India, was to test the truth of the antiquity of Mahishmati and its relation to the problem of colonization of the Narmada valley by the Aryan, or better Puranic tribes.

This report—the first to be followed by two others in the near future—sets out the results of this joint effort of 1952-53. It does not claim to have solved it, but it can, none the less, be rightly claimed, that the problem has been set in its proper perspective and it may be stated that the picture emerges in a faint way.

Working on the clues supplied by the first season's report, these two institutions have again co-operated this year to obtain as full a picture as possible of the Proto-historic people of the Narmada valley in which adjoining regions, as well as distant countries like Iran seem to have played a part. It is hoped that these and other similar co-operative endeavours will help unravel our distant past of which so much is heard, but so little known or seen.

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Research Institute, Poona

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Vice-Chancellor
M. S. University of Baroda

PREFACE

I

Aims of Excavation

Maheshwar was believed by many scholars to be the same as ancient Mahishmati. Under this belief the late Shri KARANDIKAR organised a Narmada Research Board and dug on the site of Mandalkho at Maheshwar. He thought that he had recovered the remains of the Puranic city. That was also what Shri Amrit Vasant PANDYA believed when he collected from the rain-gullies and the surface of a mound, known as Dhanbedi (Mound V), potsherds and a few microlithic chips. Shri PANDYA's claims, however, attracted widespread attention. Dr. (now Sir) Mortimer WHEELER was also inclined to examine these claims but when he was shown the finds among which were some glass bangles he thought that Shri PANDYA had no case. Dr. M. G. DIKSHIT (the then Curator of the Deccan College Museum) and I saw Shri PANDYA's collection at Anand in February 1950 and immediately I sent Dr. DIKSHIT and Dr. SUBBARAO to carry out a preliminary exploration at Maheshwar. With the help of Shri Somachand Gangaram VAIDYA they discovered Navdatoli, just opposite Maheshwar on the south bank of the Narmada. Compared to the latter, this site was extremely rich in painted pottery and microlithic cores and blades.

Organization of the Joint Universities' Expedition

The persistent tradition about the puranic age of Maheshwar (see p. 5) and the apparent antiquity of the site supported by these finds could only be tested by a scientific excavation. A plan was therefore drawn upon in which co-operation was sought from Universities in the Bombay State. The call was responded to by the Universities of Bombay, Baroda and Poona by promising financial help for a period of five years. Each of these Universities sent also a couple of students for training in field archaeology. The Department of Archaeology of the Maharaja Sayajirao University of Baroda also co-operated in the excavation and the preparation of the report. A Joint Universities' Expedition was thus organized. It was further assisted financially by Sir Purshottamdas Thakurdas and Sir Chunilal V. MEHTA who voluntarily came forward with help when they learnt of the aims of the expedition.

Co-operation from Madhya Bharat Department of Archaeology and Education

Maheshwar then formed a part of the State of Madhya Bharat. Its Department of Archaeology was under Dr. D. R. PATIL, one of my first pupils. He readily co-operated and at his instance the State authorities,

particularly Dr. BOOLCHAND, the Education Secretary took great interest in our project and gave us permission to excavate in the State. This was also endorsed by Shri A. GHOSH, Director General of Archaeology in India. Dr. PATIL deputed also Dr. H. V. TRIVEDI and his other assistants to participate in the excavation. In the closing stage of the work, the Madhya Bharat Department of Archaeology dug at Mound V, under our direction.

Division of Work.

The work on the excavation and the preparation of the report was shared as follows. Dr. SUBBARAO and I were in charge of the overall planning and supervision of the excavation. Dr. DEO looked after the pottery and the day-to-day report of the excavation, while the antiquities were registered in a joint session every evening in which all of us participated. Shri R. N. MEHTA and the student trainees from the three Universities and the Deccan College, Sarvashri Z. D. ANSARI, K. D. BANERJEE, S. N. CHAUDHARY, DESAI, Dr. A. V. NAIK, P. P. PANDYA, WAGHDHARE and V. S. WAKANKAR from Ujjain acted as site supervisors. Shri ANSARI, besides helping in the supervision was also in charge of drawing and photography and surveyed the mounds with Shri VAIDYA. Later he assisted Dr. DEO and me in the writing of the sections on pottery. Shri Ramesh J. KHATRI and Shri G. S. TELANG have done all the drawings of sections, plans, stone implements and the chart on chronology. Shri WAKANKAR and later Shri A. P. KHATRI of the Deccan College explored many Chalcolithic sites in Malwa and the map which is here appended (Map IV, facing p. 244) is mostly based on their work. The section on the excavated coins was to have been written by Dr. TRIVEDI, but owing to other engagements he could not prepare it. He has however checked some of my readings. In the same way, Dr. R. N. MEHTA of the Baroda University could not prepare the section on terracotta objects, so Dr. DEO has done that besides the sections on historic pottery and beads.

Co-operation from experts

The coins were cleaned by Shri V. A. BANAVALKAR of the Prince of Wales Museum, Bombay at the instance of the late Shri R. G. GYANI, and Shri P. L. GUPTA of the same museum has read the Islamic and other coins. To both these scholars we are grateful for their help. It was intended to make the report as useful as possible to scholars by including studies on pottery, bones and other antiquities. But owing to various reasons, we have not succeeded except in getting the Chalcolithic animal remains examined by Dr. J. C. GEORGE of Baroda University. Dr. B. B. LAL, Archaeological Chemist, Government of India, kindly undertook the analysis of the glass seal, and the few copper objects from the Chalcolithic layers have been chemically and mechanically analysed by Shri M. MATHUR of

the National Chemical Laboratory, Poona and Dr. S. K. K. JATKAR, Head of the Chemistry Department, University of Poona. These studies tell us that the few copper objects are really low grade bronze (like the copper axes from Jorwe). To all these experts, we are beholden for their co-operation. Some of the remaining studies it is hoped to incorporate in the Second Season's work.

Thus this report is the result of the joint labours of many of my former pupils and now colleagues. To them, particularly the student trainees—Shri BANERJEE, CHAUDHARI, DESAI, MEHTA, NAIK, PANDYA, WAGHDHARE, WAKANKAR and Shaikh ZAINUDDIN, I am deeply thankful. Their assistance made the organization and execution of the project successful. Special thanks are due to the past and present authorities in Madhya Bharat (Pradesh) Government, in particular Dr. D. R. PATIL and Dr. H. V. TRIVEDI of the Archaeological Department for their co-operation in our work, and to the two private donors for their spontaneous gesture. I should also mention here my wife. Not only has she been a constant companion in all my excavations, but she has helped us considerably by her solo explorations on either banks of the Narmada at Maheshwar.

Publication

I am further happy to record that this report is published jointly under the auspices of the Maharaja Sayajirao University of Baroda and the Deccan College Research Institute. Without their help it would have been impossible to publish the results so adequately as also to organize the first as well as the second expedition. The University of Bombay and the University of Poona not only gave grants towards the excavation, but also towards the publication of the report. So I am obliged to the authorities of these Universities for their continued support.

Since the report was prepared at two centres, Poona and Baroda, readers will notice certain discrepancies, for instance in presentation and spelling of proper names. Maheshwar has been written also as Maheshvar, Navdatoli as Navdatodi. These discrepancies are very much regretted.

II

Summary of Results and Future Work

The excavations fulfilled the main purpose for which they were undertaken. They have given us a broad sequence of cultures right from the Early Stone Age up to the 18th century A.D. Of these the first three—Periods I, II, and III—have been revealed for the first time in Malwa. The stratigraphic position of Period III, long after Period II and almost immediately before Period IV, indicates that it should not be much older

in time. Provisionally, until Carbon-14 tests are available, this may be dated to about 1,000 B.C. It is at this period that the foundations of Maheshwar (Mahishmati) and Navdatoli were laid. A people knowing beautiful wheel-made painted pottery and carts with solid wheels had settled (or colonized) on either bank of the Narmada. Though they still used stone blades for cutting, scraping and piercing (copper and bronze being scarce) they were not nomadic hunters. This season's excavation, organized as before, but on a horizontal scale, fortunately, helps to define this picture more definitely. This has not only confirmed the relative stratigraphic proportion of the various painted wares (see p. 83) but afforded some idea of the houses, a few complete forms of vessels, food habits of the people and their relations with cultures in India and outside.

The Chalcolithic¹ inhabitants of Navdatoli lived in square, round or rectangular houses with probably flat roofs. The walls and ceilings were made of clay mixed with grass and supported from inside with split bamboos arranged alternately. Both had rounded corners and were white-washed or plastered thinly with lime. The floors were also made with lime and yellow or black clay. Their hearths or *chulas* were also well made and plastered with lime. Twice, at least, most of the houses were completely burnt down but the people had levelled the burnt debris and started afresh. They cultivated wheat, gram, peas and *masur*, *mung* and rice, grains which are grown today at the foot of the mound. Most of their vessels—large and small—were painted in black, with a variety of designs, over a red or white background and very rarely over a black surface in white. Most of the bowls and dishes illustrated (in Figs. 11-33) had thin, delicate, short or long stand. Sturdy storage jars were decorated with incised designs. Dough was prepared, as today, in large thick coarse-bottomed plates (Fig. 24).

It is not yet possible to say who this people were—Aryans or pre-Aryan Nagas, for instance,—as the Puranic traditions imply (see p. 5). Evidence is however accumulating to suggest that these painted pottery people of the Narmada valley—in fact of the whole of Malwa and the adjoining regions as well, as demonstrated by explorations and excavations at Nagda, Bahal and Prakash—had relations with or were influenced by the late Iranian Bronze (and Early Iron) Age cultures knowing the horse. In addition to the channel-spouted cups (whose number is now considerable), we have another specialized vessel which occurs only in Necropolis B at Sialk

¹Of the 38 copper objects found this year, five were copper celts. One of these, and a rod were kindly and very expeditiously examined, through the kind offices of Dr. MOTICHANDRA, quantitatively and qualitatively spectrographically by Dr. E. C. ALLARDICE, Controller, Atomic Energy Establishment, Govt. of India, Trombay, and Dr. V. T. ATHAVLE, Officer-in-Charge and their two assistants. The rod contained nearly 12 per cent of tin and is definitely bronze, while the celt is of pure copper.

Carbon-14 date of the Chalcolithic habitation at Navdatoli.

From this season's excavation 20 samples were sent to the Physics Department of the University of Pennsylvania for Carbon-14 dating. The Department very kindly undertook the examination of four of our samples, which represent the four phases of the Chalcolithic habitation. According to the report received just now from Miss Elizabeth K. Ralph, C-14 Dating Laboratory, the top layers of the Chalcolithic habitation would be 3294 ± 125 (i. e. about 1000 B. C.) and the earliest layers would be 3503 ± 128 (i. e. 1500 B.C.).

(GHIRSHMAN, *Fouilles De Sialk*, Vol. II, pls. lxxv s858, lxxiii s938, lxxix s988a). Our vessel is larger and there is no tripod stand; otherwise the identity in form is complete. Again this season's finds indicate that many of our bowls and dishes (Figs. 38 and 30-33) had stands and compare very favourably with those from Sialk and Hissar. The list of designs appended here is also more than doubled and consequently the number of designs recalling those from Iran has increased.

How this contact with Iran took place is again a moot point. But if this is established by further investigation, then we might postulate an Aryan migration into the Narmada valley (Malwa in fact, including the whole of the Chambal river system and south of the Narmada into Khandesh and the Deccan) in about 1000 B.C. The earlier inhabitants would then be the Nagas and other pre-Aryan tribes in a Neolithic or Microlithic hunting stage of culture. Such a development would prove to some extent the truth of Puranic traditions (however with their long genealogies and the probable time occupied by them severely cut down). If, however, the painted pottery people turn out to be of the pre-Aryan stock, then it would imply that the iron-using people came on the scene only about the 5th-4th century B.C. This might then imply that the Puranic stories refer to events which took place at this period and are still less old.

By 400 B.C. or probably still earlier (our Period IV), Maheshwar with other early historic cities like Ujjain, Hastinapur, Ahichhatra, Kosambi, Kasi, Pataliputra and Rajagriha (belonging to the sixteen Janapadas of the period of the Buddha) enters the Iron Age. Various coin types from our excavations lend a support to its growing importance at this time, becoming a halfway house between the north and the south. The appearance of large-sized brick houses a little later, as well as other items of daily life (Chapters VIII-XIII) show that it shared in full the impact of new cultural forces with the rest of India. The time and resources at our disposal were not sufficient to uncover the whole plan of the palace or large house (Pl. VIIa, and Fig. N) and at least a part of the layout of the ancient Mahishmati. But this might now be attempted, and is likely to be very enlightening, as our horizontal excavations at Navdatoli this season have proved. It is equally important that another big Chalcolithic site in Malwa is fully excavated with a view to confirming the contacts with Iran, for, as said above, the whole of Malwa and its surrounding regions were colonized by the painted pottery people in the Chalcolithic period. Concerted, intensive efforts will reveal their identity.

Navdatoli

26th January 1958

H. D. SANKALIA

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I

ANTIQUITY OF MAHESHWAR

Situation

Maheshwar (22° 11' N and 75° 36' E) is situated on the northern bank of the Narmadā, about 50 miles due south of Indore. It is (and was) a tālukā town of some importance in the Nimād (Nimār) district, under the Holkars of Indore.

Nāvdātōḍī

Almost exactly opposite on the southern bank lies the hamlet of Nāvdātoli (or Nāvdātōḍī) (boatsman's village)¹, a place of little significance now, except as providing a crossing from the hinterland. Some 3,000 years ago, however, this place was perhaps in a more flourishing condition than its northernly neighbour. About the beginning of the Christian era it was nearly wiped off by a flood²; hence no trace of its existence seems to have been known to the then contemporary writers. Nāvdātōḍī has therefore no claims to literary antiquity.

Topography

The town of Maheshwar extends for over a mile from east to west along the Narmadā, and less than half a mile in depth northwards. This longitudinal extension³ is significant. It seems to have been necessitated by geography. For immediately behind, almost half the longitudinal extension of the town, towards its eastern end flows the Māheshwarī river, running nearly north-south, suddenly turns eastwards, and cutting the city near the Jvāleśvara temple, joins the Narmadā.

Another nālā on the opposite end marks the western limit of the town. Thus the Māheshwarī river and its extension at the western side could have very well formed a moat (*prākāra*), and their junction with the Narmadā would make it a complete island, or as Sanskrit dramatists would describe it, a (watery) girdle. (See below p. 8).

This mile-long area is dotted with high mounds and gullies, indicating a long man-made occupation and its erosion by nature. The present town

1. It is spelt as Nauratori in Survey Sheet No. 46 N/SE 1 inch to 2 miles.
2. This is indicated by a thin layer of river sand and gravel over the ruins of the Stupa.
3. This is true of Mandla, see below p. 12.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

is confined to the centre, while the waterfront is adorned with a built-up *ghāt*, and magnificent temples. Most of the latter are renovations or reconstructions over the debris of earlier temples of the mediaeval (10-13th century) and perhaps pre-mediaeval period. It was the Rānī Ahalyābāi Holkar of Indore who thus revived the departed glory and sanctity of Maheshwar. The *Chhatra* and the temple built by the Holkar family dominate the scene, and attract pilgrims and visitors from all over India.

Antiquity

Maheshwar is one of the few fortunate towns of India which have a well-attested history right from the modern up to the beginning of the Christian era.

XIXth century

Leaving out the references by explorers in the 20th century, the first British officer to visit Maheshwar seems to be Captain DANGERFIELD⁴. He calls it "Mhysir," and had noted large earthen vessels at the junction of the upper and lower beds in the high cliffs of the Narmada. He thought that these had been overwhelmed by a shower of earth or traditionally earthquake. BOSE,⁵ a geologist who went there nearly 60 years afterwards (1882), observed at the side of Maṇḍālkho, two well-defined beds of unequal thickness : the upper about 20 feet and light-coloured, lower about 75 feet and brownish, and both separated by a very hard dark-coloured clay.⁶ He was curious as to the purpose of the six ring-wells and some earthen pots. BOSE had also noted the two inscriptions in the temples of Kāleśvara and Mātangeśvara, dated 1622 and 1623, which identify Maheshwar with Māhiṣmatī.

CUNNINGHAM and his assistants who began an archaeological survey in 1861 do not seem to have visited Maheshwar.

4. Captain DANGERFIELD, "Geology of Malwa" in Sir John Malcom, *A Memoir of Central India including Malwa* (London, 1832), Vol. II, p. 325. However, Captain WILFORD seems to be the first person to refer to it and identify it with Chauli-Maheswara. WILFORD, *Asiatic Researches, or Transactions of the Society instituted in Bengal*, Vol 9 (1809), p. 105.

5. BOSE, P. N., "Note on earthen pots found in the alluvium at Maheshwara. (Mahesar)", *JASB.*, 1882. Vol. 51, Pt. 1, pp. 226-9.

6. These layers correspond respectively to the man and nature-made debris and were noticed by us in our very first visit.

ANTIQUITY OF MAHESHWAR

Muslim Period

During the four centuries of Muslim rule, we know of only two specific mentions of Maheshwar : the first, when it was captured by Ahmad Shah⁷ on 17-2-1492,⁸ and the other when Akbar passed through it in 1600-1601.⁹ Being in the interior, the Arab and Italian travellers like Marco Polo do not appear to have gone there.

Chinese Traveller

It is also doubtful whether Yuan Chwang's¹⁰ Mo-hi-ssu-fa-lo-pu-lo, identified with Maheśvarapura, is our Maheshwar¹¹ or Mandla of CUNNINGHAM or some third place. For, from the itinerary, it does not appear that our Maheshwar is meant, though the Chinese traveller did find there a large number of Deva temples of the Pāsūpatas.

Of about the same period (c. 600-700 A.D.) is a reference to Māhesari or Māhesara, a prosperous city in Dakkhināvaha, in a commentary on the *Āvaśyaka-sūtra*.¹²

Māhabhārata

The *Mahābhārata*¹³ also mentions a Maheśvarapura, and a Maheśvarapada as a *tīrtha*, while according to one reading the Maheśvarasthāna from which Rudra destroyed Tripura is mentioned in the Dronaparvan.¹⁴

Purāṇas

Now a few Purāṇas, like the *Matsya*¹⁵ and the *Padma*¹⁶ refer to a sacred place (*tīrtha*), called Jaleśvara (or Jāleśvara) on the Narmadā, and while narrating its origin they speak of Maheśvarasthāna on the same

7. CHI., III, p. 298.

8. The exact date is given by DISKALKAR. See below footnote 67.

9. *Ibid.*

10. WATERS, Thomas, *On Yuan Chwang's Travels in India*, Vol. II, p. 251.

11. DIRSHIT, S. K., *Proceedings, All-India History Conference, Calcutta, 1939*, p. 146.

12. JAIN, Jagdish Chandra, *Life in Ancient India as depicted in the Jain Canons* (Bombay, 1947), p. 308.

13. SÖRENSEN, *Index to the Names in the Mahābhārata*, II, p. 457, citing III (Bombay Ed.), 84, 8107 and 8097.

14. Ch. 200, quoted in Vāchaspatya Nāgari Ed., Vol. III, p. 3373, cited by DIRSHIT, S. K., *op.cit.* p. 141, footnote 24.

15. *Matsyapurāṇa* (Ānandāshrama Ed., p. 410 ff.), Adhyāyas 188-89.

16. *Padmapurāṇa* (Ānandāshrama Ed., Vol. I, p. 19ff.), Ādikhaṇḍa, Adhyāyas 14-15.

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river, as the place from which Rudra thought of destroying Tripura. The *Padma* further associates Svāhā,¹⁷ the wife of Agni, with Maheśvarapura. Since the same Purāṇa at another place¹⁸ says that Rudra destroyed Tripura from Māhiṣmatī, DIKSHIT¹⁹ argues that he is justified in equating Maheshwar with Māhiṣmatī, as Rudra and Agni are the common factors in all these stories and as at Maheshwar there is a temple of Jvāleśvara. He would further place the antiquity of Maheśvarapura²⁰—Mahiṣmatī²¹ at least to the 1st century B.C. as both are mentioned, though separately and at different places, in the *Mahābharata*.

Identification

Now DISKALKAR,²² PANDYA,²³ DIKSHIT,²⁴ KARANDIKAR,²⁵ and much earlier WILFORD²⁶ have tried to identify Maheshwar with Māhiṣmatī, whereas MIRASHI,²⁷ RAYCHAUDHARI,²⁸ PARGITER and others following FLEET²⁹⁻³⁰ have identified Māhiṣmatī with Oṃkāṛ Māndhātā, CUNNINGHAM³¹ differing from both these thought that it might be Mandla.

Māhiṣmatī in Buddhist Literature

Māhiṣmatī, according to the early Buddhist literature, which in its present form definitely seems to be earlier than the Puranic or embodies stories about events which find corroboration in monuments of 2nd-1st century B.C., was situated towards (not in) Dakṣiṇāpatha. According to the Mahāgovinda Suttanta³², Mahiṣmatī was the capital of Avantī, one of the

17. *Op. cit.*, Sṛṣṭikhanda (V), Adhyāya 17, sloka 206.

18. *Op. cit.*, Uttarakhanda (VI), Adhyāya 115, slokas 3-13.

19. DIKSHIT, S. K., *op. cit.*, p. 141. All the Puranic references here cited are taken from him, but checked and more logically presented.

20. Dronaparvan, Adhyāya 200 (Vāchaspatya, Nāgari Ed. Vol. III, p. 3373.)

21. Sabhāparvan, critically edited by EDGERTON, Introduction, p. xxviii and *JAS.* Vol. 58, pp. 262 ff.

22. *Proceedings, Indian History Conference, Patna Session 1946*, pp. 61ff. The same article also appears elsewhere. See footnote 67.

23. *Journal of the Gujarat Research Society*, Vol. VIII (1946), pp. 135-38.

24. *Op. cit.*

25. *Ancient India* (Ed. by Vishnu R. KARANDIKAR), Vol. I, April 1936, pp. 2-3 (of the Report).

26. *Op. cit.*

27. and 28. These follow FLEET. See below footnote 72.

29. *JRAS.*, 1910, pp. 440-47.

30. *Ibid.*, p. 444, footnote 1, and below, also LAW, B. C., *Historical Geography of Ancient India*, Paris, 1954, p. 174.

31. *Ancient Geography of India*, p. 559.

32. *Digha-Nikāya* (Pali Text Society), ii, p. 220 f.

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seven kingdoms (*Janapadas*) of Renu's empire. More specifically it lay on the highway from Paithan to Ujjain. *Sutta-Nipāta*³³ narrates a story of a Brāhmaṇa sage Bāverī. Summarized, this says that the hermits dwelling on the bank of the Godhāvarī (Godāvārī) in the neighbourhood of Alakā,³⁴ in the territory of Assaka, going north in search of Buddha went to Paṭṭithāna on the east of Alaka, then to Mahissatī, and then to Ujjeni, Gonaddha, Vedisā, Kosambi, Sāketa, Sāvattthī and so on.

Inscriptions

This passage depicts a living tradition as pilgrims from Mahisatī or Māhisati along with those from Ujeni (Ujjain), Pratīthāna (Paithan) and other places recorded their donations on the stupas at Sanchi.³⁵ These are not later than 1st century B.C. and some portions of them might go back to 2nd or 3rd century B.C.

Patañjali

Almost contemporary with the Buddhist tradition is the reference by Patañjali. While commenting (*Vārttika* 10 and 15) on Pāṇini (3.1.26) he says that setting out from Ujjayinī one could make sunrise (see the sunrise) at Māhismatī.³⁶

Purāṇas

These references imply an earlier, well established existence of the city, which the various Purāṇas try to explain, though at a much later period, and hence at times their accounts are contradictory or confusing.

Several Purāṇas, and the epics, including the *Harivamśa* unanimously declare that Māhismatī was situated on the Narmadā, and further associate the Haihayas, a branch of the Yadu-vaṃśa with it. The names of members of the family ending with *-haya* and *-asva* as Daśāsva suggest that these were Aryan-speaking people. It is also clear, whoever be the actual founder or the conqueror, that the previous inhabitants of the area were Nāgas, whom the Haihayas defeated. Of the Puranic accounts that of

33. After FLEET, *JRAS.*, 1910, p. 443, citing FAUSBÖLL, *SBE.*, X, Part 2, pp. 180-88.

34. This may be Mulaka as given by a Ms. cited by the *Sutta-Nipāta* (Pali Text Society, New Ed. by D. ANDERSON and Helmer SMITH, London, 1913), p. 194.

35. BÜHLER, "Inscriptions of Sanchi Stupa," *EI.*, II., pp. 97-116.

36. First cited by FLEET, *JRAS.*, 1910, p. 441, also DIKSHIT, S. K., *op. cit.* and KANE, P. V., *JBBRAS.*, Vol. 27 (1951), p. 38. KIELHORN, *Mahābhāṣya*, Vol. II, p. 35.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

*Harivamśa*³⁷ is slightly elaborate, and, if truly descriptive of the site of the city, might help in its location.

Mucukunda, a son of Yadu, by one of the five daughters of Dhumravarna, a Nāga king, selected the Vindhya valley. Here on the Narmadā, a site full of dangerous rocks was selected and cleared for habitation. It was adorned with temples and provided with various types of roads and parks and protected with a moat³⁸ (*parikhā*), having water all round and with also a bridge. It is also said that Māhiṣmatī was situated between the two Vindhya, or the Vindhya and the Rkṣavat (Sātpudā) ranges.

However, in the account given in an earlier section,³⁹ and also in *Padmapurāṇa* it is once said that Mahiṣmat, a son of Sāhañja, a great grandson of Haihaya, one of the sons of Yadu, founded Māhiṣmatī. Again 20 ślokaḥ later⁴⁰ we are told that the city was conquered by Arjuna Kārtavīrya from the sons of Karkotaka Nāga. The *Vāyu*⁴¹ and the *Matsya*,⁴² both believed to be comparatively early Purāṇas, endorse the last view.

Two other accounts in the *Padmapurāṇa* are interesting and significant. While describing the Bhūmikhaṇḍa,⁴³ an enlarged version of Prthuvainya's exploits it says that Prthu gave the Haihaya and Kalinga-dēśas to Sutas, Māgadhas, Vandinas and Cāraṇas, whereas he himself, after having made a city after his name, stayed on the bank of the Revā. This implies that the country was already called Haihaya, before Prthu gave it away.

The second account⁴⁴ narrates that Mucukunda, a grandson of Māndhātā of the Lunar family, though originally descended from Ikṣvāku of the Solar family through Ila(ā), became the lord of the Narmadā valley.

37. Adhyāya 38, ślokaḥ 14-20, p. 246.

38. This clearly implies that the city was not founded on an island, as Omkar Māndhātā suggested to be by PARCITER, *Mārkaṇḍeya Purāṇa*, p. 333, and Introd. p. 9, and accepted by FLEET, *JRAS.*, 1910, p. 445.

39. *Op. cit.*, *Harivamśa Parva*, Adhyāya 33, ślokaḥ 4-5, p. 89. Cf. also *Padma*, VI. 115.

40. *Ibid.* śloka 26.

41. Vol. II, Adhyāya 32, verse 26 (Ed. by Rajendralal MITRA, *Bibliotheca Indica*, Calcutta, 1888).

42. Adhyāya 43, verse 29 (Ānandāshrama, Poona, 1907). Whereas, according to *Padmapurāṇa* (Pārtha) Vainya ruled in the Narmadā valley.

43. *Padmapurāṇa*, II, 27, 86-88. (Ānandāshrama Ed., Poona, 1893, p. 173).

44. *Op. cit.*, V, 8, 39-40.

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Mahābhārata

The *Mahābhārata* gives a few additional details. When during his *digvijaya* Sahadeva proceeded to conquer Māhiṣmatī on the Narmadā after subduing Navarāstra, Kuntibhoja, and Bhoja, the son of a Jambhaka on the Carmanāvati (Chambal), it was being ruled by king Nila.⁴⁵ Since the latter was assisted by Bhagavān Havyavāhana (Agni), Sahadeva was helpless. He then propitiated the Fire God, who told him that he was bound to protect the city, as long as the king's dynasty lasted. From Māhiṣmatī, he went south to Traipura (Tripurī). This passage from the *Mahābhārata* admirably fixes the position of Māhiṣmatī, between the Chambal and Tripurī in about the 1st century B.C., as would appear from references to Romā.⁴⁶

Referring to an earlier period, the Anuśāsana Parvan tells us that Māhiṣmatī was the capital of Daśāśva,⁴⁷ a son of Manu; then of Duryodhana,⁴⁸ a great-grandson of Daśāśva, who had married the Narmadā, and given his daughter Sudarśanā in marriage to Agni, and finally of Arjuna Kārtavīrya.

Tripura

Tripura or Tripurī which Rudra destroyed from Mahēśvara was according to one account in the *Matsya*, inhabited by Asura Bāṇa⁴⁹, according to another⁵⁰ in the same Purāṇa, by Tārakāsura. The *Mahābhārata* cited above, places it immediately south of Māhiṣmatī. This would point to Tripurī, modern Tewar,⁵¹ on the Bāṇagaṅgā, a tributary of the Narmadā.

While considering the question of identifying Māhiṣmatī of the Hāihayas with that of the Kalacuris, it should be remembered that the

45. The Sabhā Parvan (Critical Ed. by EDGERTON, Poona, 1944), Sarga 28, verses 1-38. Also Vol. VI, Udyoga Parvan (Critical Ed. by S. K. DE. Poona, 1940), Sarga 139, verse 23. KANE, *loc. cit.*, also mentions Sarga 166, but this Sarga does not contain any reference to Māhiṣmatī.

46. EDGERTON, *op. cit.*, Introduction, p. xxviii and *JAOS.*, Vol. 58, pp. 262 ff.

47. SÖRENSEN, *Index to the Names in the Mahābhārata*, Vol. I, p. 458, citing from Bombay Ed., XIII, 2, 69.

48. *Ibid.*, XIII, 166 and 153.

49. Adhyāya 187-88 (Ānandāshrama Ed., Poona, 1907), pp. 410-16.

50. *Ibid.*, Adhyāya 138, but see also 129-40, pp. 234-61.

51. Actually it—Tewar—is east-north-east of Maheshwar, but might have been regarded as south of Māhiṣmatī, if Sahadeva went to it, after crossing the Narmadā.

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Purāṇas never refer to Māhiṣmatī of the Haihayas while narrating the destruction of Tripura by Rudra. The parties and the places concerned are Rudra, Indra, Nārada and other gods on one side with Maheśvara as the centre; on the other Maya, Tripurāsura, Tārakāsura, and Bānāsura stationed at Tripura.

Probably it was at a much later date that the Haihayas, Cedis and Kalacuris came to be identified, and it was during the historical period⁵² that Tripurī became a second Cedi or Kalacuri capital, though it is not impossible that the stories to which the Purāṇas refer to are conflicts between the various allied clans, of which the Cedis are the earliest, mentioned as they are in the *Rgveda*.⁵³ From the various references to the Cedi country and its capital Suktimatī both in the *Mahābhārata*, and early Buddhist and Jaina literature, and the proved numismatic and archaeological antiquity of Tripurī, the above inference drawn from the collation of the Purāṇic and other accounts would seem quite justified. It is these traditions, viz. the association of Rudra with Maheśvara, the destruction by fire of Tripurī by him, and the protection of Māhiṣmatī by the Fire God and its long connection with the Haihayas, who were later identified with the Cedis or Kalacūris—the rulers first of Māhiṣmatī and then of Tripurī—that have given ground for the identification of Maheśvara with Māhiṣmatī.

Classical Literature

Kālidāsa, Daṇḍin, Rājaśekhara and Murāri echo this description of Māhiṣmatī. The former⁵⁴ narrates that Pratika, a descendant of the Haihaya family ruled it at the time of Indumatī's marriage. It was guarded by the Fire God and was encircled by the Revā (Narmadā) like a girdle round its hip-like⁵⁵ ramparts.

Daṇḍin not only confirms this description but seems to give a true picture of the political conditions in Mālwa and the Deccan in the 6th

52. This has been already stated clearly by RAYCHAUDHARI, *Political History of Northern India* (Calcutta, 1950), p. 129. Therefore DIKSHIT, M. G., *Tripurī—1952* (Nagpur, 1955), p. 9 does not seem to be justified in saying that Cedi was a general name of the *janapada* (country) right up to the Narmadā. The Cedi *janapada* comprised a part of the country south-west of the Yamunā, but beyond that was the Avanti *janapada* of which Māhiṣmatī formed the southern border.

53. VIII. 5. 37-39.

54. *Raghuvamśa*, VI, 42-43 (*Māhiṣmatīvapranitambakāñcīm*).

55. DIKSHIT, S. K., *op. cit.*, 1939, p. 138 (equating *nitamba* with *jaḡhana*) argued that the river formed a semi-circle. As shown below it is not necessary to stretch the meaning this way. For, if anything, it would suit Ōmkāra Māndhātā more than Maheshwar.

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century A.D. as MIRASHI has admirably shown,⁵⁶ though the names of the rulers might be fictitious. Māhiṣmatī was one of the kingdoms in Anūpa, and its king was of the Bhoja family.

By the time of Rājaśekhara⁵⁷ and Murāri,⁵⁸ the Kalacurīs had established themselves at Māhiṣmatī, though the former still takes its history back to the Haihayas, while his description of the city with moats and ramparts formed by the Narmadā, recall that of Kālidāsa and Daṇḍin.

Mediaeval Inscriptions

Epigraphical references to Māhiṣmatī are comparatively few and not of much value, though in their range they indicate the existence of the city for nearly 1500 years. Those of the earlier period from Sānchi stupas,⁵⁹ as pointed out above, merely mention Mahissati or Māhissati. Of the early mediaeval period, we have two copperplate grants of one Mahārāja Subandhu,⁶⁰ (A.D. 416-17 or 479-80) found respectively from Barwani and Bagh caves. Both the grants were issued from Māhiṣmatī. The former mentions a place (village) Sohajanā-padraka in Udumbaragarta-pathaka, and the latter to Dāsila-pallī. MIRASHI's identification is not happy, otherwise it would have been easier to locate Māhiṣmatī. He himself identifies it, in the text, with Omkāra Māndhātā, whereas the map which gives names of places in early Kalacūri inscriptions, facing p. xxxiii, gives Maheshwar.⁶¹ The latter is more probable, as it is nearer to Barwani and the places identified.

The next reference is of the mediaeval period, nearly 800 years later. Here a copperplate of Paramāra Devapāla⁶² was found in the Siddheśvara temple at Omkāra Māndhātā. It was issued from the king's residence at Māhiṣmatī and refers to Satajunā, in Mahuāḍa-pratijagaranaka. These

56. MIRASHI, "Historical Data in Daṇḍin's *Daśakumāracarita*," *ABORI*, XXVI pp. 22-31. The account is given in the eighth chapter of *Daśakumāracarita* of Daṇḍin (Ed. by Peter PETERSON, Part II, Bombay 1891), Uchhvāsa 8, pp. 60-61.

57. *Bālarāmāyaṇa*, III, Śloka 35. In his *Kāvya-nīmāṃsā*, p. 93, Rājaśekhara places Dakṣiṇāpatha, south of Māhiṣmatī.

58. In his *Anargha-Rāghavam*, Act VII, between ślokas 114-115. (*Kāvya-māla Series* No. V, Bombay 1887).

59. *E. I.*, II, pp. 97-116.

60. MIRASHI, *CII.*, *Inscriptions of the Kalachuri-Chedi Era* (Ootacamund, 1955) V, Part I, pp. 17-19, 19-21, IV.

61. Unfortunately one inch to a mile map of this area is not available to me, so that I cannot propose a more suitable identification.

62. *EI.*, IX, p. 103.

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places are identified with Satajunā, about 13 miles south-west of Māndhātā and Mahauda, or Māhad 25 miles south of Satajuna. Both KIELHORN and GANGULY⁶³ think that Māhiṣmatī of the inscription is no other than Maheshwar. Since the inscription was found in a stone-chest near the temple and refers to the king's residence, whose family built a number of beautiful temples at Māndhātā, it may be argued that Māhiṣmatī should be identified with Māndhātā, and not Maheshwar. However, these places are not more distant from Maheshwar as a study of the maps would show.⁶⁴

One very important point has been missed by all previous writers on the subject so far. Devapāla, the Paramāra, made the grant while stationed at Māhiṣmatī, and after having bathed in the Revā and after having worshipped Śiva (Bhavānīpati), (whose shrine) was near that of Viṣṇu (Daityasūdana).⁶⁵

Now the question might be solved whether Māhiṣmatī was Maheshwar or Omkāra Māndhātā if there were temples of Śiva and Viṣṇu (of the Paramāra period) in close proximity at either of these places. Of course, both the places have a number of temples, but at Omkāra Māndhātā the Paramāra ruins can be easily identified,⁶⁶ whereas at Maheshwar it is difficult and can only be done by a detailed study.

Late Inscriptions

Still later inscriptions⁶⁷ come from Maheshwar proper and one specifically calls it Māhiṣmatī. They belong to the reign of Akbar and are in Sanskrit. The details are as under :—

- I. Inscription of 1565 A.D. (V.S. 1622, Śaka 1487) from the modern Kāleśvara temple. It records the restoration of a Maheśvara temple, called Ādilinga at Agnitirtha, Kālāgnirudrakṣetra, Daśalakṣatirtha at Māhiṣmatī, near Maṇḍapācala in Malwa on the confluence of the Revā and Māhiṣmatī by one Maṇḍolī Devadāsa.

63. *Ibid.*, p. 106 and GANGULY, D. C., *History of the Paramāra Dynasty* (Dacca 1933), p. 210.

64. One Inch to 4 miles, Map No. 460 and N. (1948).

65. Mandhata Plates of Devapala (V) S. 1282. *EI.*, IX, Text, p. 109, ll. 19-20.

66. For Siddheśvara temple, see *ASRI. AR.*, 1903-04, p. 57.

67. Briefly recorded, probably for the first time, though referred to by BOSE in 1880, by DISKALKAR, D. B. in *Magnificent Maheshwar* issued by the Director of Information, Holkar State, Indore, pp. 33-34. The same article is published in *Proceedings, Indian History Congress* (Patna, 1946).

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- II. Inscription of 1570 A.D. (V.S. 1627, Śaka 1491) from Mātangeśvara temple. It records the restoration of the Kālēśvara temple by the Mandloī.
- III. Inscription of 1571 A.D. (V.S. 1627, Śaka 1492) from the Jaina temple. It records the restoration of the Ādinātha temple by Mandloī Devadāsa.
- IV. Inscription of 1575 A.D. (V.S. 1635, Śaka 1500) found in a Śiva temple at the Markat Sangama—of the Revā and the Vedā—near Mandleshwar. It records the restoration of the temple by the Mandloī Jagannātha.

The Muslim monuments at Maheshwar contain a few Persian inscriptions.⁶⁸ These testify to the prosperity of the place in Akbar's time, and even later, but are unimportant from our point of view as they do not refer to Māhiṣmatī.

Omkara Mandhata

Omkāra Māndhātā or simply Māndhātā (22° 14' N., 76° 0' E.) is an island in the Narmadā. It is about 38 miles above Maheshwar, but considerably distant by road. The approach from the railway is through a jungle on the southern side. Just where the site is, the river has cut through beautiful sandstone formations. The river channel is deep and narrow, with high, rocky banks. The main temple (Omkāreśvara) is situated on the northern side. Higher up on the same side are magnificent temples (in ruins), some with *toranas* of the Paramāra period. There are a number of old temples on the southern side also. When MALCOLM visited it he noticed remains of fortifications on the island.⁶⁹

Other late, mediaeval or early notices of the place seem to be few (unless it be identified with Māhiṣmatī). Puranic references are also scarce. There is one in the *Śivamahāpurāṇa*⁷⁰ and one in the *Saura Purāṇa*.⁷¹ Both these, however, describe the sacredness of Omkāreśvara, but do not couple

68. DISKALKAR, *op. cit.*, p. 34.

69. MALCOLM, John, *Memoir of Central India* (London, 1832), Vol. II, p. 504 (see under Mundatta). Also *IA.*, 1896, pp. 53-56.

70. *Śivamahāpurāṇa*, IV (Kāliśrudrasamhitākhaṇḍa), A. 18.

71. *Saura Purāṇa* (Ānandāshrama, Poona, Śaka 1811). VI, ślokes 15-18.

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it with Māndhātā, of which there is no mention at all. However, after FLEET and PARGITER some writers⁷² identify it with Māhiṣmatī.

Mandla

Mandla is situated on the right bank of the Narmadā,⁷³ which "makes a sort of a loop round the city." There was also a fort, which on two sides was defended by a moat, while the other two were washed by the river. The inhabited city extends for a distance of two miles, along the river. "It is a long straggling place, and of very little width." This is true of Maheshwar also. Again like the latter, the place, with its ghāts and temples, looks beautiful from the opposite bank. However, CUNNINGHAM who inspected the place in 1873-74 did not find anything very old there. Dr. M. G. DIKSHIT who seems to have visited it very recently holds a similar view.⁷⁴

Because of certain features occurring in the description of Māhiṣmatī in the *Harivamśa* and in the *Raghuvarṃśa*, that CUNNINGHAM⁷⁵ probably identified it with Māhiṣmatī. Until, however, Mandla's antiquity is proved,⁷⁶ it merits no consideration. Secondly, its geographical position does not fit in with that of Māhiṣmatī.

Identifications

FLEET⁷⁷ and DIKSHIT⁷⁸ also discussed at length RICE's statement⁷⁹ that Māhiṣamandala and Māhiṣmatī could be some place in Mysore. This from our point of view is irrelevant to the issue, as we are discussing the Māhiṣmatī on the Narmadā.

We have now traced the antiquity of Maheshwar, Māhiṣmatī, Māndhātā and Mandla in traditional literature, and accounts of travellers

72. E.g., CHAUDHARI, Sasi Bhusan, *Ethnic Settlements in Ancient India* (Calcutta, 1955), p. 67. He gives no new evidence. So also LAW, B.C., *India as depicted in Early Texts of Buddhism and Jainism* (London, 1941), p. 77. See also above p. 4

73. The description is taken from CUNNINGHAM, *ASI Reports*, Vol. VII, pp. 103-106.

74. Conveyed to me orally on 7-2-1957.

75. *Ancient Geography*, p. 488 (Old Edition).

76. It should be searched for painted pottery in the layers below the fort-walls.

77. *JRAS.*, 1910, pp. 429-41, and the views of WILSON and RICE cited on p. 442.

78. *Op. cit.* Kautalya, *Arthaśāstra* Ch. 34, p. 81. (Ed. regards Mahiṣa cotton as best. This might point to Mahiṣmatī as it lies in a very rich cotton belt.)

79. In FLEET, *op. cit.*

ANTIQUITY OF MAHESHWAR

as well as in inscriptions. A brief idea is also given of how the first, the third and the fourth look today. From these it must have been apparent that the identification of the second with the first or with the third must rest upon circumstantial evidence.

Hitherto the most exhaustive attempts at the identification of Māhiṣmatī are those of FLEET,⁸⁰ DIKSHIT,⁸¹ and DISKALKAR.⁸² The first after very nearly identifying Māhiṣmatī with Maheshwar, chose to agree with PARGITER⁸³ in identifying it with Omkāra Māndhātā. FLEET argued that though Maheshwar and Māndhātā equally satisfied certain conditions, namely, that they were

- (i) holy places and on the Narmadā,
- (ii) on the highway from Paithan to Ujjain, and
- (iii) near to Tripuri (Tewar), as demanded by the *Mahābhārata*,

there was one condition, according to which Mucukunda founded the city of Māhiṣmatī on a rocky region on the Narmadā, between the Vindhya and the Rkṣavat. This is fulfilled by the situation of Omkāra Māndhātā. He, therefore, identified it with Māhiṣmatī.

DIKSHIT⁸⁴ and DISKALKAR⁸⁵ have well contested the case for Maheshwar, citing in addition the extensive ruins of Maheshwar, and the temple of Jvāleśvara at Maheshwar, as the one referred to by Kālidāsa and some Purāṇas, or the second place called Jālesvara on the Narmadā. Regarding the crucial point, on which FLEET tipped the balance for Māndhātā, DIKSHIT finds some difficulty, and suggests that *Harivaṃśa*'s description of Māhiṣmatī between the two Vindhya should be regarded as a loose expression. If so, some hills are within 5 miles of Maheshwar.

Maheshwar identified with Mahismati

I think, however, that it is not necessary to stress the case this way. It can be proved that FLEET's interpretation does not suit Māndhātā,

80. FLEET, *JRAS.*, 1910, pp. 444-47.

81. DIKSHIT, S.K., *Proceedings Indian History Congress* (Calcutta, 1939), pp. 141 ff.

82. DISKALKAR, *op. cit.*

83. *JRAS.*, 1910, p. 445. PARGITER, *The Mārkaṇḍeya Purāṇa*, Translation, *Bibliotheca Indica* (Calcutta, 1914), p. 333, note.

84. DIKSHIT, S.K., *op. cit.*

85. DISKALKAR, D.B., "Maheshwar through the Ages"; the same article is published in *Proceedings Indian History Congress* (Patna, 1954), p. 60 ff.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

whereas Maheshwar satisfies all the conditions. The reasons are as follows:—

- (1) Mucukunda is supposed to have built a moat round Māhismati. This would not be necessary at Māndhātā as the island is in the river. At Maheshwar, however, as shown in our topographical description of the place, a moat could easily have been made (and probably it was made) by joining the river Māheshwarī with the Narmadā. (See above p. 1)
- (2) From the point of view of founding a new settlement, the Māndhātā region is extremely unsuitable. It is rocky. At Maheshwar, on the contrary, are open, cultivable stretches on either side of the river.
- (3) Māndhātā⁸⁶ does not lie on the highway from Paithan to Ujjain. But Maheshwar does. The road from Paithan, as the *Road Map of India*⁸⁷ shows, goes to Aurāngabād. From there it passes through the Ellorā and Ajantā caves, the old Buddhist settlements, and from near Jāmner or Jalgāon, it crosses the Tāpī at Bhusāwal or Burhānpur. From either of these it proceeds to Khandwa via Assir, and then crosses the Narmadā, probably at Maheshwar, either through Khargaon and Kasrawād. Even the modern Khandwa-Indore highway crosses the Narmadā at Kherghat.⁸⁸ Māndhātā lies further to the east, and there is no crossing there, or any continuation of the road northwards. Whereas from Maheshwar, Indore is due north and thence Ujjain, one of the most important places in Central India from the 5th century B.C. to 5th-6th century A.D.

As DISKALKAR⁸⁹ has already pointed out, this was the main line of communication for at least the last thousand years, traversed by the British, Marathas and Mughals, and the early Muslims.

86. KARANDIKAR, *op. cit.*, p. 13 (of the Report) says the old trade-route passed through Omkara via Burhanpur. However, he gives no authority, and his arguments about the antiquity of the remains are fantastic.

87. *50-mile Road Map of India*, Sixth Edition.

88. One inch to one mile Map, No. 55 B/4.

89. DISKALKAR, *op. cit.*

ANTIQUITY OF MAHESHWAR

The existence of Buddhist caves, as well as stupas at Kasrāwad⁹⁰ and now at Nāvḍātoli, just opposite Maheshwar, as shown by our excavation, would prove indubitably that this must have been the ancient highway along which the Buddhist Bhiksus went from Paṭhan to Ujjain and thence to the east to Śrāvastī.

The epigraphical evidence is not conclusive, it must be admitted. A 16th century epigraph from Maheshwar, however, definitely speaks of it as Māhiṣmatī. As against these we have no evidence for Māndhātā.

Numismatic data also favours Maheshwar. Not only it has yielded a series of pre-Christian coins of the Āndhra, the Tribal, the very small and the normal silver and copper punch-marked coins, but recently a coin bearing the words *Māhisati*⁹¹ in characters of the 3rd century B.C. has been found from Maheshwar itself, in addition to the one from Ujjain and two earlier ones from unknown sites.

Lastly, the excavations and explorations at Maheshwar and Nāvḍātoli have proved the great antiquity—going right back up to the Early Stone Age—of these two sites on the Narmadā.

Conclusion

If there is any place on the Narmadā known today which has a continuous chain of mounds proclaiming the site of an ancient city on both the banks, which lies on the highway from Ujjain to Paṭhan, which has Buddhist stupas near and around, which has a large number of Śaiva and Viṣṇu temples, some of the 13th century as well, a site where a moat might have been made round the city, so that the Narmadā as it were formed a girdle round it, as imagined by Kālidāsa, Daṇḍin and Rājaśekhara, a site, which, at least during the last 300 years has been identified with Māhiṣmatī, a site which during the periods immediately preceding could as well be Māhiṣmatī mentioned in inscriptions of the 2nd century B.C. and 5th and 13th centuries respectively, and finally a site whose antiquity the excavations have taken right back to the prehistoric period through a protohistoric, then such a place is Maheshwar. Excepting that no early record but coins are found from Maheshwar, calling it Māhiṣmatī, Maheshwar fulfills all the conditions for identifying it with Māhiṣmatī.

90. DISKALKAR, "Excavations at Kasrawad," *IHQ.*, Vol. XXV, pp. 1-18. Also *Proceedings, Indian History Congress*, (Patna, 1946), p. 61.

91. *JNSI*. XVII (1955, p. 95 and other references therein.)

EXCAVATIONS AT MAHESHWAR AND NAVDATOLI

II

STRATA, STRUCTURES AND SUMMARY

Introduction

Since excavations were carried out in both the areas on either bank of the Narmada,* for purposes of convenience and precision, the results are treated together as there is a fine overlapping of the different cultural phases in both the areas, and actually the results of each area are complimentary to the other, and together, they give a fine sequence for about 2500 years. Moreover, the individual results of each area, by themselves, will not be complete on account of topographic features. While Maheshvar is located on the high cliffs of the river Narmada on the cutting side of the river, the mounds on the southern bank lie on the slip-off slope away from the present bed. This has resulted in differential erosion. At Maheshvar, the mounds have, in addition, been badly cut up and disturbed by continuous habitation and other human activities. At Navdatoli, on the other hand, the mounds have more or less remained intact after their abandonment. Hence excavations were commenced on the undisturbed mounds of Navdatoli, so that the sequence could be used to verify and check the evidence at Maheshvar.

Maheshvar and Navdatoli

Maheshvar is situated in a slight bend of the river Narmada at the junction of the river Maheshvari, which flows south from the Vindhya, then takes a sharp bend flowing east-west and finally joins Narmada in a sharp southward meander. The city began from this confluence and extended for a distance of nearly a mile westwards. The ancient city rested on the high cliffs or the high terrace of the river about 100 feet above the water level. At present this ancient high terrace has been cut up into a series of high mounds by rapid erosion, which to some extent has been checked by continuous habitation in the central area and by the construction of the fort. The rest of the area is highly undulating with deep gullies; hence the ancient debris rests on the top of these high mounds. From east to west, the mounds were numbered for the sake of convenience.

There is no evidence of habitation to the east of the confluence of the Narmada and Maheshvari. To the west of the confluence and lying

*From this chapter onwards all diacritic marks on place names are omitted. Maheshwar is also spelt as Maheshvar.

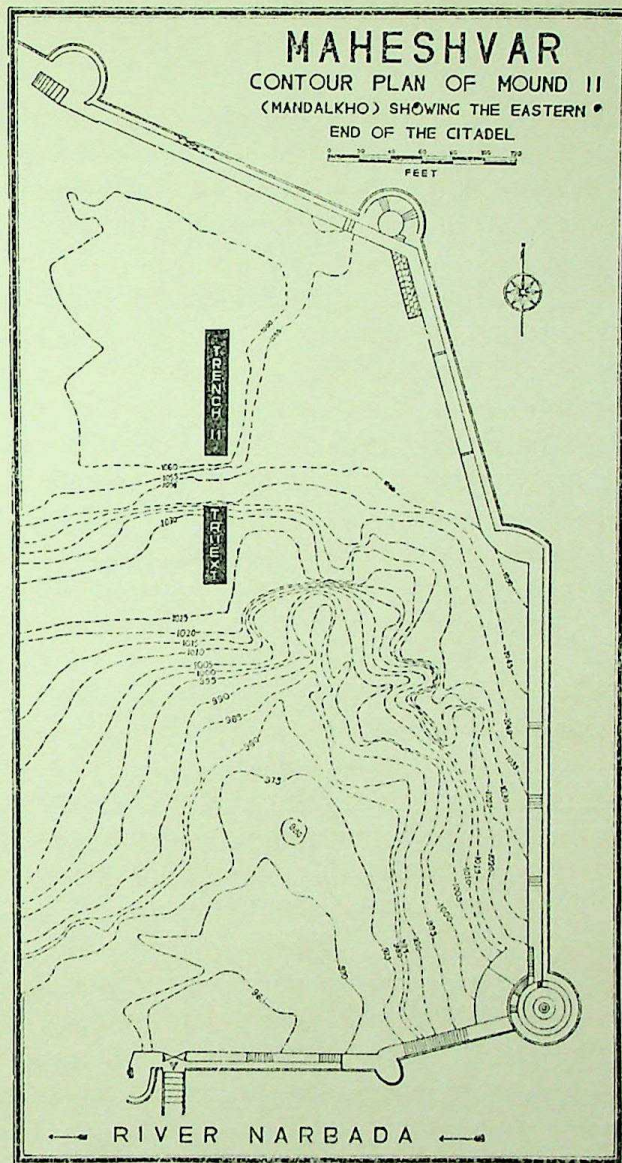


Fig. A

NAV DATOLI

MAHESHWAR

Fig. B I., Chart showing the Cultural sequence at Maheshwar and Navdatoli. (See p. 19.)

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between both the rivers is a mound, on which there is a temple of Jvāleśvara; this is called Mound I or the Jvāleśvara mound. Here, apart from an extant late temple, there is no other habitation. But the occupation debris does not exceed about ten feet. From the subsequent account of the excavation this mound does not seem to have been inhabited in the Proto-Historic Period, though a few specimens of Northern Black Polished Ware and some early coins have been recovered from the surface. Though the area might have been inhabited in the Early Historic, it seems to have been definitely abandoned about 500 A.D.

The next area is inhabited by fishermen, but no trace of early habitation can be noticed.

The most important part of Maheshvar is the citadel area (Fig. A). The eastern part of this fort area is called Maṇḍālkho on account of its association with Maṇḍana Miśra, a famous Sanskrit scholar-philosopher of the 8th century A.D. There is a narrow entrance from the river into a low valley or "*kho*" and the older habitation rests on the overlooking cliffs. The fort-wall encloses the whole '*kho*'. A portion of the outer fort-wall facing the river was probably destroyed and we get a fine view of the cliff-section with the later occupation debris resting on the "Black cotton soil". Here in the exposed '*kho*', it was possible to observe the occupation debris of a thickness of 46 feet which raises the ground level in the fort to about 140 feet above water level. In the medieval times (Period VII), probably about the period of the construction of the fort, advantage was taken of this '*kho*' to build some structures at a lower level guarding the entrance to the river. In course of time, the erosion of the top portion resulted in the filling up of these structures, as will be pointed out in the following pages. The Mandalkho area is described as Mound II. The area to the west of it is still being inhabited.

To the west of the citadel, habitation seems to have stopped in Period VII and this fact has accentuated the erosion, which has cut up the whole of this area into three mounds. On the mound, abutting on the river Narmada, is the famous Viṭṭhal Mandir. There is a halfburied temple with a very narrow entrance, called "Bhartrhari gumphā"—the cave of Bhartrhari—with sculptures of the Paramāra Period. This mound, described as Mound III, was not excavated, though there are traces of Early Historic habitation.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Separated by a deep gully is another mound described as Mound IV. This mound, which houses the remnants of a 'wādā' of the Maratha Period, also shows traces of Early Historic habitation.

To the south-east of it is another very high mound (from the floor of the gully) with traces of medieval fortification in a highly dilapidated condition which overlooks the area to the north and south. This mound (Mound V) is popularly called 'Dhanbedi'. It is being eroded very rapidly and a small sloping ridge of about 40 feet width runs in a north-south direction.¹

This mound is indeed the richest in antiquities of the Proto-historic Period (Period III) in the Maheshwar area. From the surface evidence as well as the excavation, the proto-historic habitation on the north bank of the river Narmada (Maheshwar area) seems to have been confined to the area to the west of the citadel. In the Early Historic Periods (Periods IV to VI) the habitation extended further east upto Jvāleshvara. There are isolated patches of older debris to the west of Dhanbedi for another two to three furlongs on the cut up terraces, but it does not seem to have been of a very long duration.

The excavation was conducted on the mounds known as Jvāleshvara (I), Mandalkho (II) and Dhanbedi (V). As a general observation it may be repeated that these mounds at Maheshwar are badly cut up by erosion, and that the reconstructions arising from continuous human habitation have caused considerable soil disturbance.²

Navdatoli (Fig. B. Pl. Ia).

On the south bank of the river Narmada at Navdatoli, on the other hand, the habitation rests on the older terrace of the river Narmada about two furlongs away from its present bed. Here the ancient site extends over an area of about a square furlong divided into four unequal mounds of irregular shapes. The south-eastern mound, called Khanderāobedi, is designated as Mound I. Of all the mounds this yielded, on surface examination, the largest number of microliths. Work was therefore started on this site.

1. From the north, this mound rises abruptly about 120 feet above the plains. Hence this has been described as the "Acropolis" by Shri A. V. PANDYA.

2. For example, the inscription of Ahalyabai mentions that the temple was constructed in 28 years. One can imagine the amount of destruction and disturbance in the neighbouring areas.

CONTOUR PLAN OF THE MOUNDS NAVDATOLI

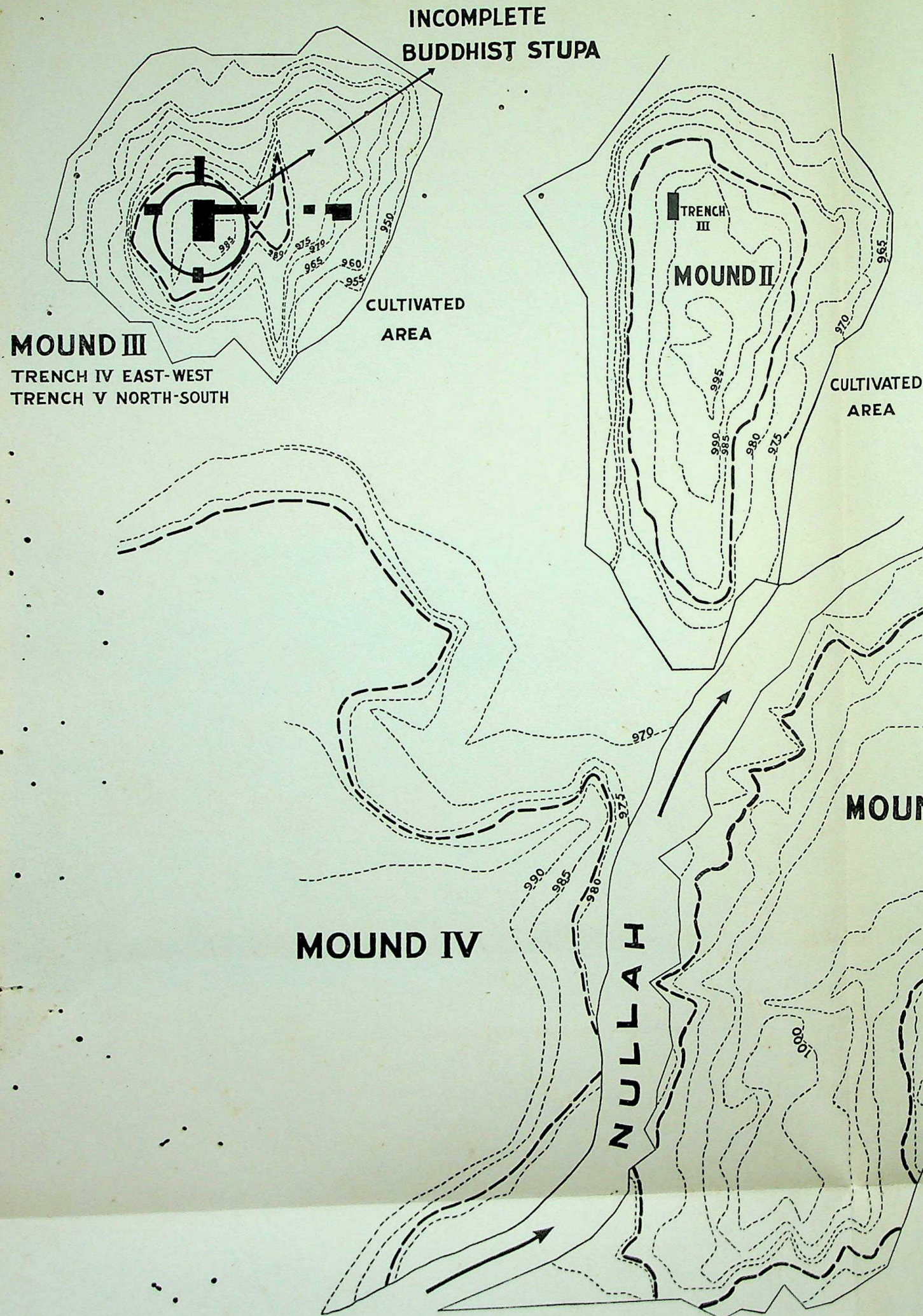
DATUM 1000

CONTOUR INTERVALS OF 5 FEET

FLOOD MARKS ON THE MOUNDS

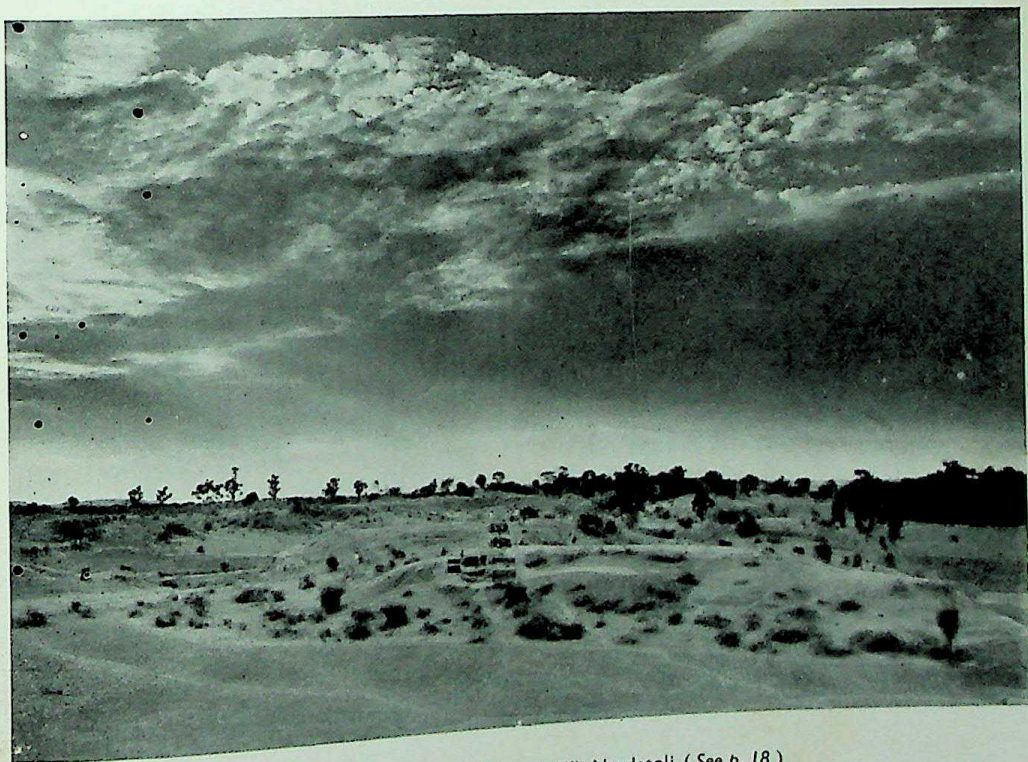
981 FEET CONTOUR

0' 40' 80' 120' 160'
FEET

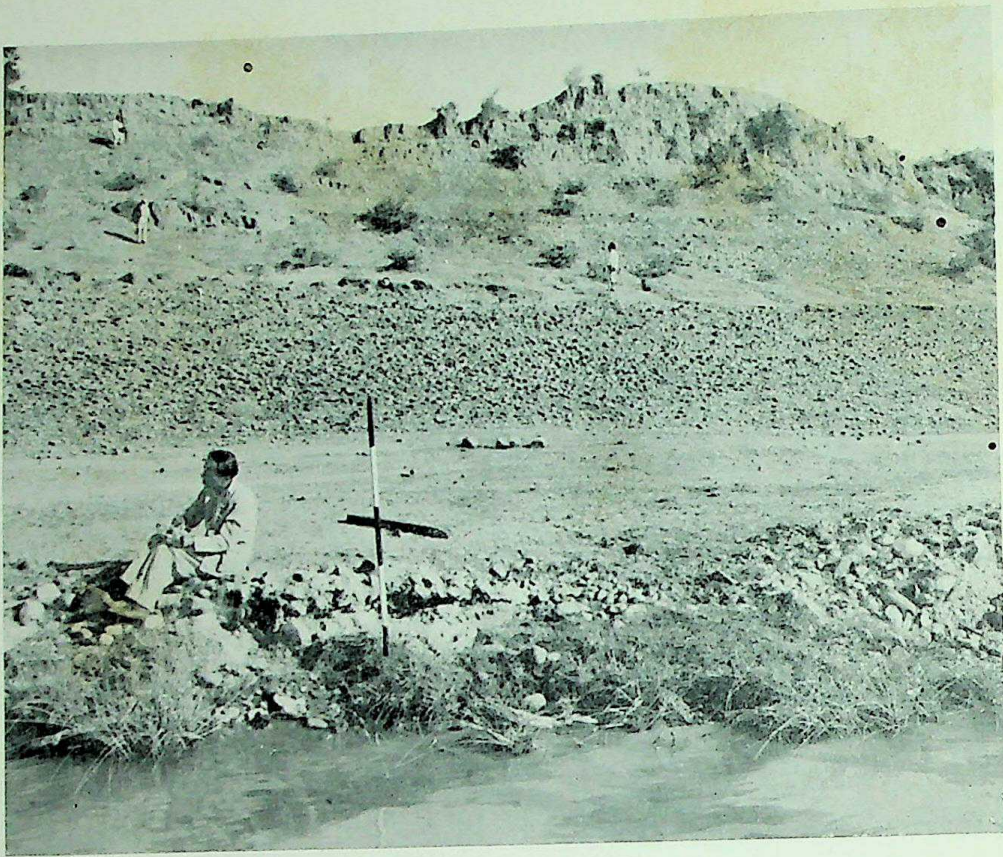




a. A general view of the mounds at Navdatoli (See p. 18)



b. A view of the Stupa Mound (III) Navdatoli (See p. 18)



a. A section of the Narmada cliffs near Ganesh Ghat with gravel I in the foreground. Maheshvar (See p. 20)



b. A view of the slope of Mound I showing the flood marks. Navadatoli (See p. 25)

STRATA, STRUCTURES AND SUMMARY

To the north of this is another long narrow feature, Mound II, running more or less in north-south direction. It has a narrow flat top of about 30 feet width. To the west of this mound is a trefoil-shaped mound with a raised circular top at the western end containing the remnants of the Stupa, which is described as Mound III.

Surrounded by these three mounds and separated by a deep *nala* from Mound I is another large horseshoe-shaped mound described as Mound IV.

Excavation was carried out on the first three mounds. These mounds are low and the maximum habitation deposit on the Stupa mound is about 13 feet thick. Hence these mounds rise to an average of about 20 feet above the surrounding plain from the north. But to the south they gradually merge into the general plateau-level confirming the fact that they are the remnants of an old river terrace.

3. Chronology (Fig. B1).

Before describing the main excavation, it is proposed to discuss the principal criteria of the chronology of Maheshvar and Navdatoli. As the principle is to proceed from the known to the unknown, the basic data are provided by the well known datable ceramic types, viz. the Northern Black Polished Ware and the Red Polished Ware.

The "Northern Black Polished Ware" is a typical Gangetic Valley pottery with its focus in ancient Magadha, the type-sites being Rajagriha, Vaisali, Pataliputra and Kosambi. At the last stated site, this pottery has been very closely and firmly dated to 500 B.C. on the strength of a number of datable structures. This pottery seems to have spread rapidly all over northern India, a little later. For example, at Taxila this has been ascribed to the pre-Alexandrian levels (4th century B.C.). This pottery also penetrated southwards across the Vindhya about 400 B.C.

The "Red Polished Ware" is a highly polished pottery with a very finely levigated clay burnt to a uniform lacquer red colour. This shows a great affinity to the Roman Samian ware. As will be explained further this pottery has a wide distribution in space and time ranging from the 1st to the 5th century A.D.³

3. SUBBARAO B. *The Personality of India* (M. S. University Archaeology Series No. 3, Baroda, 1956), p. 19.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

This evidence of pottery is corroborated by the occurrence of early punch-marked and cast coins (See pp. 66-79). In recent years we have sufficient evidence of the association of these coins with the N.P.B. (e.g. Hastinapur). Hence we need not depend entirely on the conjectural data based on large unstratified hoards and doubtful literary evidence.

Taking these Early Historic antiquities as the data for purposes of stratigraphical dating the whole sequence obtained from the excavations at Maheshwar and Navdatoli can be divided into the following Periods :

Period	I	Prehistoric (Early Stone Age)
"	II	Prehistoric (Middle Stone Age)
"	III	Proto-Historic
"	IV	Early Historic I
"	V	Early Historic II
"	VI	Early Historic III
"	VII	Muslim-Maratha

I Prehistoric (Early Stone Age)

The Narmada basin between Hoshangabad and Narsingpur had yielded a well-stratified hand-axe-cleaver industry of the Abbevillio-Acheulean type. On palaeontological evidence, this is assigned to the Middle Pleistocene Period.⁴ (Pl. II a).

During our detailed survey between Sahsradhārā and Mandaleshwar (including Maheshwar), over 400 palaeolithic tools⁵ were collected, some from what De TERRA and PATERSON call "Lower" and "Upper Narmada Group" respectively. (See fig. 182)^{5a}. Typologically, as well as stratigraphically, they are identical with those described by these authors. Only we could not obtain any fossils. These tools thus represent the first cultural phase (called here Prehistoric I).

II Prehistoric (Middle Stone Age)

This was probably the next culture of the Narmada Basin, before the Proto-Historic painted pottery people settled here. It •

4. De TERRA and PATERSON, *Ice Age in India and Associated Human Cultures*, pp. 312-26.

5. A monograph on these will be soon published.

5a. *op.cit.* p. 314.

STRATA, STRUCTURES AND SUMMARY

was briefly referred to and associated with the black-soil or regur.⁶ As the tools of this phase, characterized by the exclusive use of scrapers and flakes of chert and jasper, occur in the river gravels *in situ*, this seems to be of considerable antiquity⁷ and indicates a gap in time between this and the succeeding phases of human habitation in the Maheshwar area.

Apart from the surface collection, a few specimens including two fine cores of chert and jasper respectively were recovered from the excavation from Dhanbedi or Mound V at Maheshwar. Another core came from the natural black soil in Mandalkho, again at the base of the trench. These are described in Chapter III.

III Proto-Historic Period

Stratigraphically underlying the debris of the Early Historic Period (IV) characterized by the Northern Black Polished Ware (NBP) and Early coins, is the Proto-Historic painted pottery culture. At Navdatoli, the deposits of this period are very well preserved and all the elements of this culture can be studied. At Maheshwar, on the other hand, only Mound V gave evidence of this culture.

The people of this culture settled right on the virgin black soil and everywhere habitation begins on this surface and penetrates at some places. About the upper end of this period, one may provisionally date it to the first-half of the first millenium B.C. This culture does not seem to end abruptly, but it gradually disappears in the succeeding Early Historic Period with an overlap. This theory of overlap is confirmed by the occurrence of typical "black-and-red-ware" with evidence of inverted firing, in the deposits of this period and its survival and predominance in the next period.

Early Historic Period

This is the basic datable horizon in the Maheshwar sequence provided by the NBP Ware and the early cast and punch-marked coins and the Red Polished Ware (RPW). These periods are represented at all the mounds at Navdatoli and Mounds II and V at Maheshwar. In addition, we have the Stupa at Navdatoli, some of the bricks of which

6. De TERRA and PATERSON, *op. cit.*, p. 320.

7. In the Godavari basin, this is associated with a Middle Pleistocene fauna, e.g. *Bos Namadicus* Falconer. See *Journal of the Palaeontological Society of India*, Wadia Number, 1958.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

bear letters ascribable to the 3rd century B.C. At Maheshvar, this period is represented by deposits of 31 feet at Mandalkho.

Period IV

The Stupa at Navdatoli was destroyed by a flood (as will be explained later). Shortly after, the whole area seems to have been abandoned. All the Early Historic deposits in Trenches I, III and V are characterized by the black-and-red ware and NBP and Early coins. On the other hand, at Maheshvar these features characterize the layers 13 to 20. Hence this sub-division is based mainly on the diminution of this pottery from the layer 12 upwards. On account of the association of NBP and Early coins this Period can be dated from 400 B.C. to 100 B.C.

Period V (100 B.C. to 100 A.D.)

This sub-division is based on the evidence from Mandalkho, where we have what we may call a phase characterized by the gradual disappearance of the black-and-red wares and the absence of the later Red Polished Ware. Hence this period is taken to bridge the gap between the NBP and the RPW phases.

Period VI (100 A.D. to 500 A.D.)

This is the last sub-period of the Early Historic in our excavation. Evidence for this phase comes from Mounds I and II at Maheshvar. It is mainly characterized by the presence in large quantities of the Red Polished Ware. As the evidence on the west coast enables us to date it about the end of the 1st century or a little earlier, for the upper limit of this pottery, it has been considered safer to put this pottery to the beginning of the 2nd century in view of the evidence from the Gangetic valley, where this pottery goes on into the 5th century. Besides, the association of typical "mother and child" terracottas at Amreli⁸ and Patna with this pottery suggests a slightly later date than on the west coast.

Muslim-Maratha Period VII

Though the literary and architectural evidence enables us to reconstruct a more continuous history of Maheshvar, the evidence from the excavations indicates a gap or abandonment of certain areas. Thus, we did not have data for the Paramāra and other post-Harsa periods, nor for the very early Muslim occupation. This may be due to the shrinkage of the inhabited

8. Report unpublished.

NAVDATOLI MOUND I SECTION OF TRENCH I FACING SOUTH

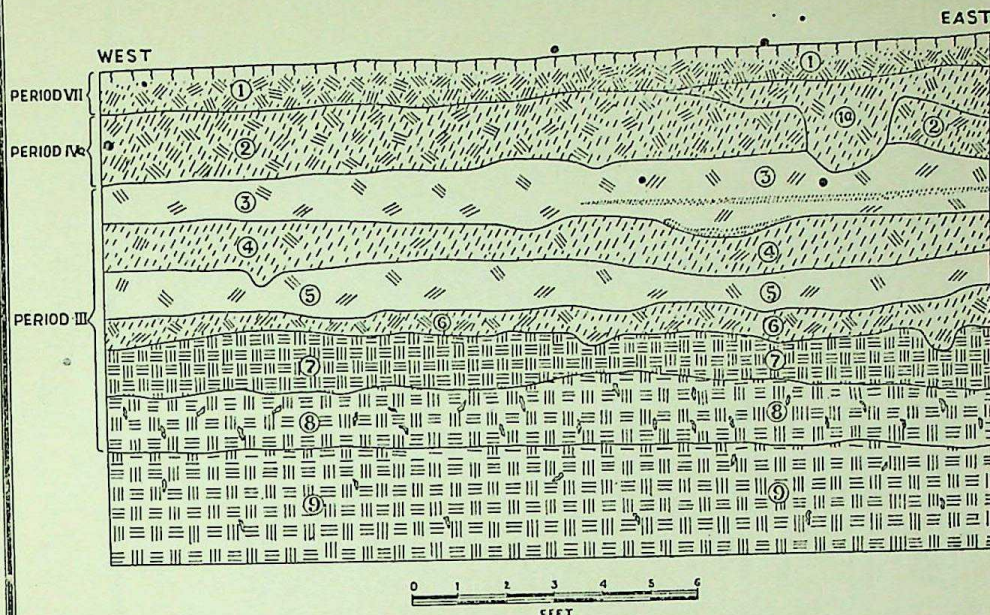


Fig. C (See p. 23)

NAVDA TOLI MOUND I

PLAN OF TRENCH I SHOWING THE FLOOR

PERIOD III

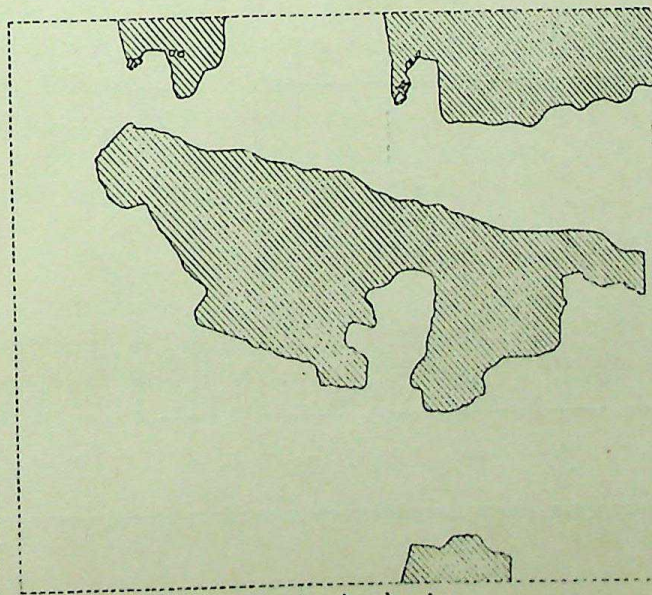
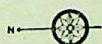


Fig. D (See p. 23)

NAVDA TOLI MOUND I

PLAN AND SECTION OF
TRENCH ICED SHOWING
THE JAR IN SITU

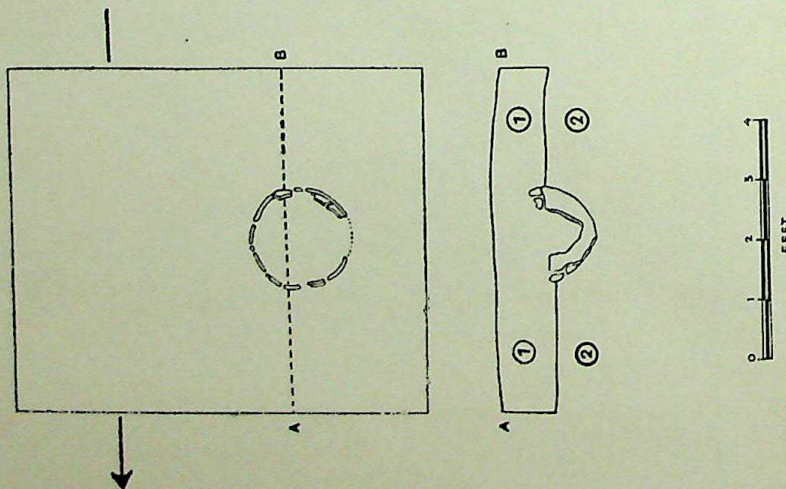


Fig. E (See p. 24)

NAVDATOLI MOUND I

SECTION FACING SOUTH EAST

TRENCH II

SOUTH-WEST

NORTH-WEST

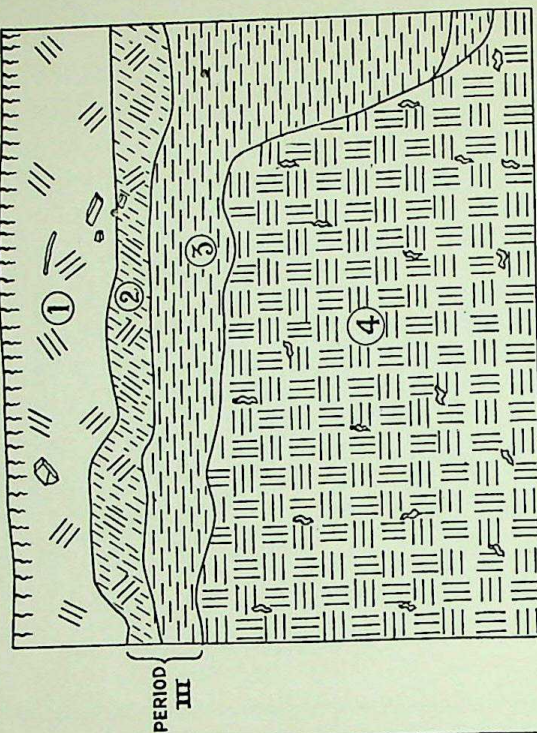


Fig. F (See p. 24)

STRATA, STRUCTURES AND SUMMARY

area owing to the decline in political importance and also natural causes like soil erosion. In all the trenches, we get in the top layers, evidence of definite Islamic glazed pottery and other Medieval and Muslim antiquities in the excavated areas. Hence, the latest phase has been called the Muslim-Maratha to indicate the top deposits, but no other significance should be attached to this designation.

In the following sections, results of the trenches dug at Maheshvar and Navdatoli will be described, according to the Periods specified above.

Navdatoli-Trench I (Fig. C)

This was the main trench on this mound, extremely rich in microliths. It was 40 × 20 feet, and laid in north-south direction on the highest point of the mound with the main object of getting the sequence and was dug upto a depth of 9 feet till the virgin soil was met.

Period III

As already said, the habitation started on the thin black soil (layer 7) and due to the disturbance was intrusive through this down into the next level of brownish kankary soil. The layers 3 to 8 represent this period. This is characterized by the occurrence of all the three varieties of painted pottery, viz. black designs on a red background, black on cream and white and whitish grey designs on the black-and-red ware in association with other plain fabrics of pottery, microliths and beads. No structure of any character was encountered, except a large number of fragments of round objects with upraised beaked edges.

Platform (Fig. D)

In the southern half of the trench a hard flooring of an irregular outline, probably hardened by burning, was found resting on layer 4. At a few places this platform touches the section. In the south-eastern corner fragments of a large painted jar were found resting on this platform. The platform was very uneven and full of depressions.

Period IV

In Trench I the most important occupational phase seems to belong to Period III. Only in layer 2 of this trench could we notice the predominance of the black-and-red ware, and painted pottery increases suddenly in layer 3. Besides the black-and-red ware, iron nails and beads were found.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Storage (?) Jar (Fig. E)

A large thick-walled pot with a pointed base was found with its top portion broken. It was apparently fixed in the ground, because the soil on the sides was loose and that at the base was compact, probably due to the weight of the vessel. The broken top of the vessel was sealed by the top layer. The contents include the fragments of a quern with high legs confirming its Early Historic character, as the specimens in the preceding culture were of the flat, irregular saddle quern type.

Period VII

The evidence from this trench suggests that this site was abandoned almost at the beginning of Period IV. The top layer yielded a number of late materials, like the Islamic glazed ware (chocolate bands on cream background), glass bangles, specially of the polychrome type (white wavy band on red). On the top of the mound a number of shallow foundations of houses with river pebbles were found, suggesting some late habitation or possibly temporary camps or huts. Actually, a number of Muslim coins were found on the surface suggesting a very late date for these structures. On the southern side of the trench, a huge shallow pit, filled with large number of river pebbles was found, and this disturbance apparently belongs to the last phase of occupation at the site.

Trench II (Fig. F)

Towards the eastern end of Mound I a number of pits, filled with ashes and bones were noticed. One of these pits contained the fragments of a large painted pot with bones and very fine serrated blades of agate. As this suggested the possibility of a burial, a small trench 8 × 15 feet was laid in NE-SW orientation to cover at least one of the pits. It was found that this area of the mound was being washed very rapidly and only the base of the pit was encountered in the trench. The pit yielded a number of potsherds including those of black-and-red with paintings, a large number of cut bones and ashes suggesting the hearth or a kitchen dump.

In this trench the natural soil was encountered at a depth of about three feet and as already remarked, the top layer consisted of a mixture of washed material of different periods. The second layer yielded a number of painted potsherds in addition to a large number of microlithic flakes. In one small area, nearly 700 flakes and tools of agate were found suggesting a "factory site."

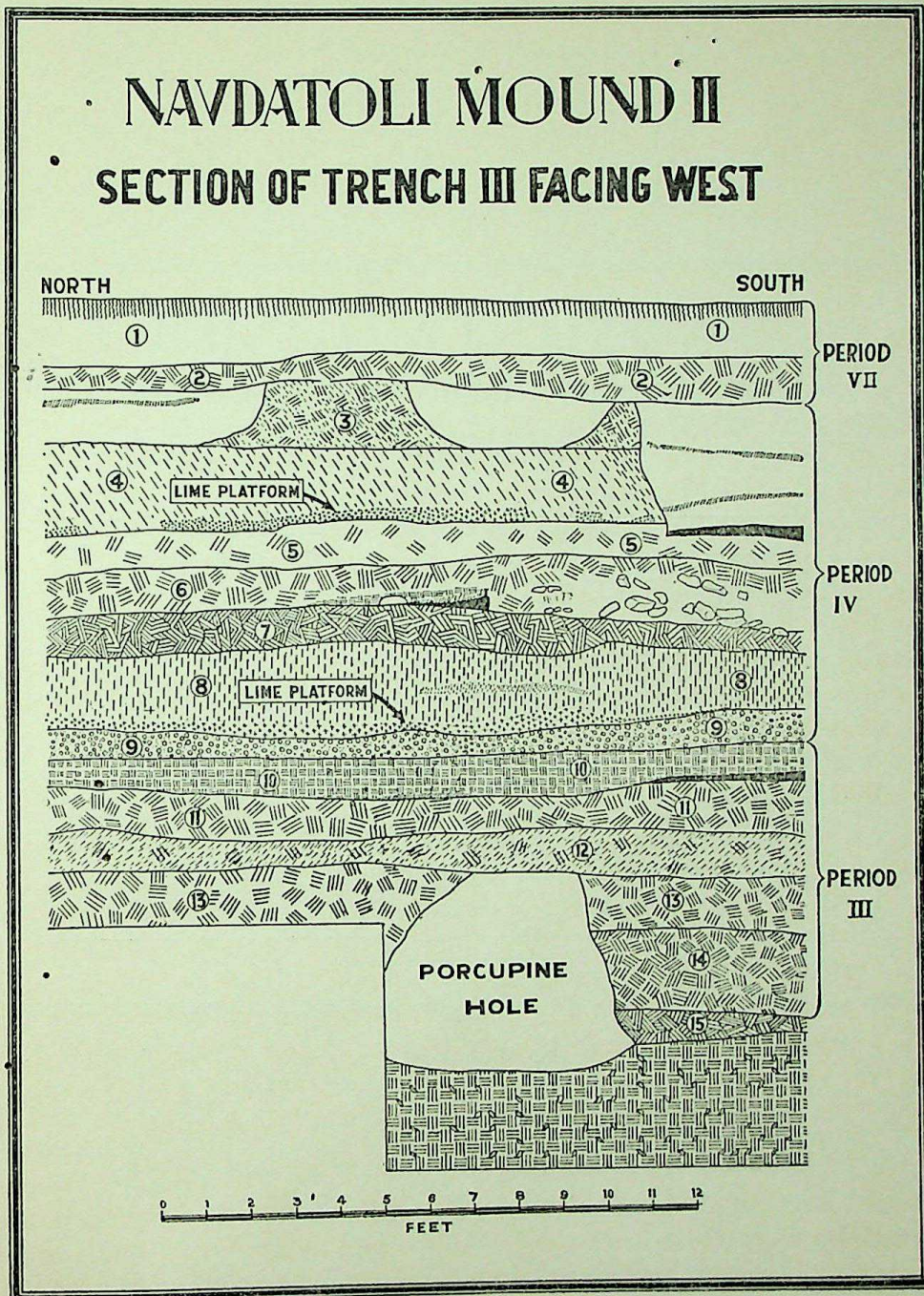


Fig. G (See p. 25)

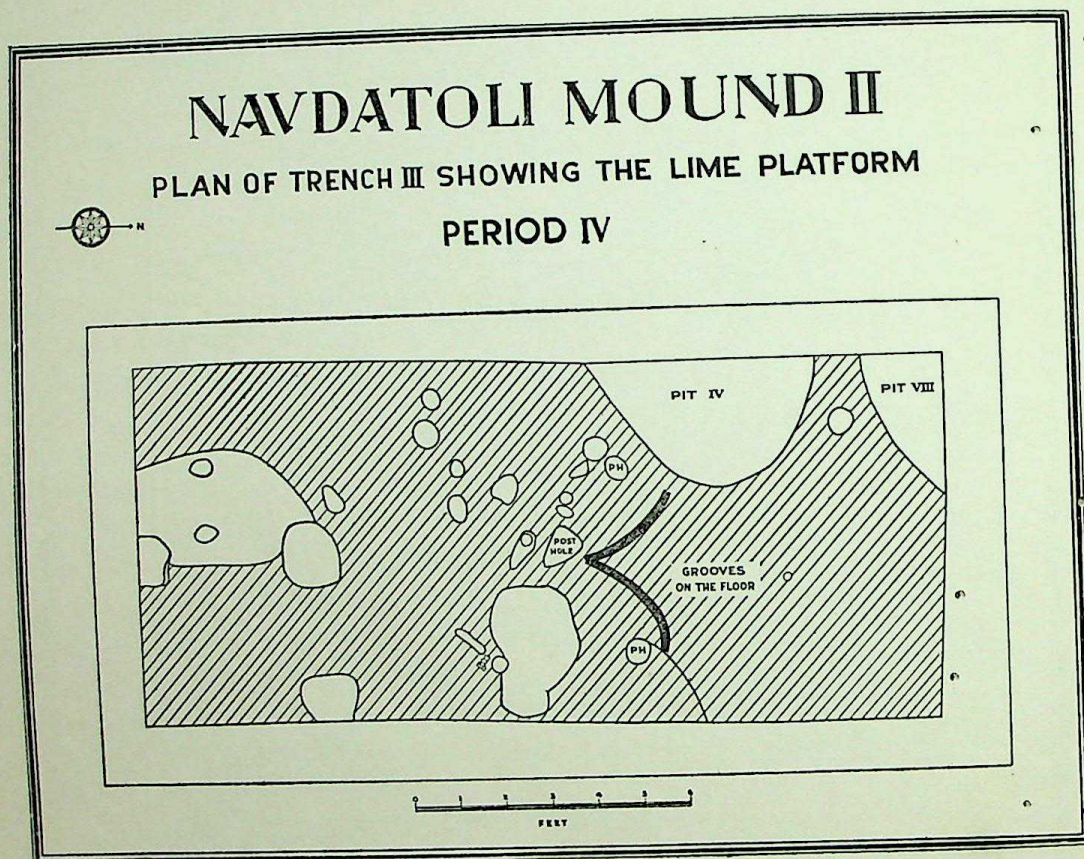


Fig. H (See p. 26)

STRATA, STRUCTURES AND SUMMARY

Trench III (Fig. G)

The most important trench at Navdatoli from the point of sequence is Trench III dug on Mound II. A trench 10 × 20 feet was laid in N-S direction at the northern end of this long mound. Here the natural soil was struck at a depth of 19 feet. Unfortunately lower portions of this trench were badly disturbed by huge porcupine holes. But the top layers showed fine evidence of continuous habitation, specially of Period IV.

Period III

As in Trench I, the habitation started on the old land surface. Here the soil is not black, but slightly pinkish in colour. The layers 10 to 15 represent the debris of the Proto-Historic Period (III). The finds include all the varieties of painted pottery, microliths, hammer-stones etc. At the end of this period there seems to have been a great flood which would probably account for the abandonment of habitation and the expansion in the area of habitation on the opposite bank of the Narmada on the Maheshvar side.

The Flood (Fig. G)

In Trench III, layer 9 consists of small pellets of gravel and sand showing even bedding. It also yielded a number of rolled potsherds. This feature was again noticed below the *pradakṣiṇāpatha* of the Stupa on Mound III, which is separated by a field about 100 yards in length. When the levels were taken, it was found that the gravels in both the trenches lie on the same 981-foot contour. An examination of all the mounds showed that there were a series of small notches in the mound indicating a perfect horizontal line all along this contour (See Pl. II b). This shows that water must have stagnated for a sufficiently long time, which would result in the collapse of the bank due to under-cutting. It looks as though the low-lying areas of Mounds II and III only were affected by this flood.

Period IV

Shortly after this flood, habitation seems to have started again in this area. This Early Historic phase is represented in this trench by layers 3 to 8. The most interesting feature of this trench is the evidence of distinct habitation phases or floor levels. There is no evidence of any brick structure in this trench, but their knowledge of the use of bricks is undoubted, in view of their contemporaneity with the great brick Stupa.

Now the different floor levels may be treated.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Period IV: Phase 1 (Pl. IIIa and Fig. H)

The folk who settled immediately after the flood subsided, lived in small huts with wooden posts. The floor of the hut was made of fine clay and lime. It was somewhat uneven and the thickness too was not uniform. But the most interesting feature is the finding of a number of post-holes on the floor. Some of them have actually yielded highly disintegrated wood. But in the limited space of the trench, it was not possible to make out any plan of the hut. At one place, there were shallow grooves on the floor in the shape of two arcs converging in the middle. It suggests an entrance with double-fly doors. Besides, there were a number of shallow pits filled with ashes etc., giving evidence of a definite floor level.

Pebble Structure Period IV: Phase 2

A small irregular alignment of large pebbles of two courses at the southern end intercalated with stiff yellowish silt, gave an indication of some structure or even a shallow pebble foundation for a hut. But the structure or at least the floor, seemed to lie outside of the area of the trench. This structure is sealed by layer 7, which consists of compact clay with lime. In layer 4 of this trench was found a square cast copper coin with man, caitya, taurine and crescent (See Pl. IIIb and Serial No. 49, p. 78).

Period IV: Phase 3

Another lime flooring, much broken and disturbed, was found resting on layer 4. Here no definite evidence of post-holes was found.

Period VII

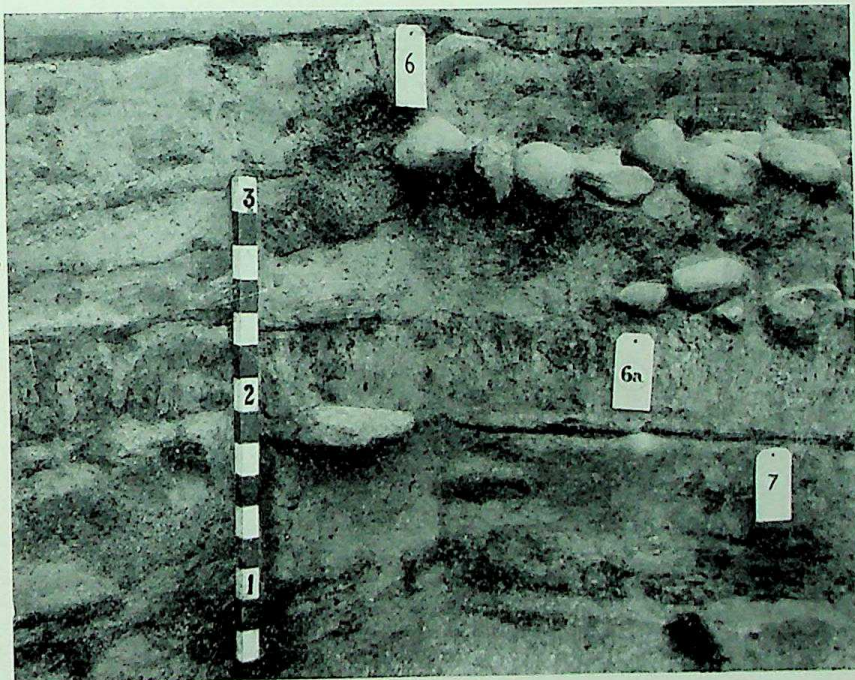
On this mound, as generally at Navdatoli, the continuous habitation stopped in Period IV. The top two layers yielded a porcelain piece (Islamic) and other evidence of a Mediaeval character, the latest find being a coin of the East India Company.

Pebble Structure

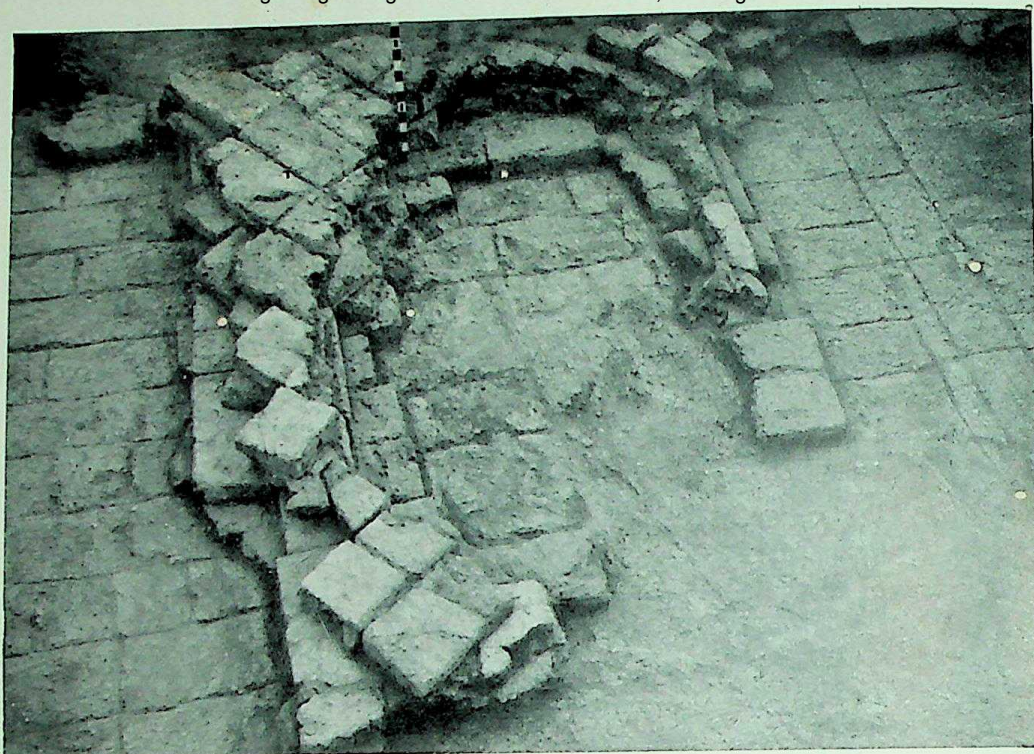
On this mound a number of exposed foundations of pebble walls of huts could also be seen. In the northern part of the trench, a portion of what appeared to be a round structure was encountered. This wall had 6 courses of well-set river pebbles with a mortar of black sticky clay and was cut into layers 2, 3 and 4 and was sealed by 1. The existence of this structure coincided with the finding of a fairly thick habitation of this phase indicated by layers 1 and 2.



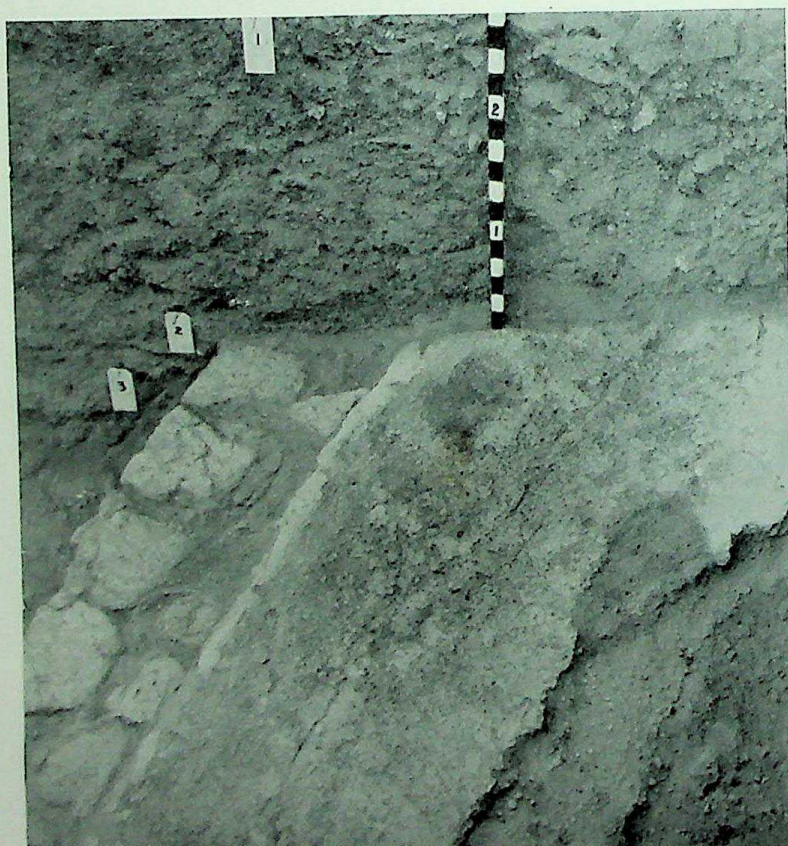
a. The lime platform with post-holes in Tr. III, Md. II, Period IV, Navdatoli (See p. 26)



b. Section of Tr. III, Md. II, showing the lime layers and two rows of pebbles (See p. 26)



a. Remnants of the solid drum of the stupa. Md. III, Navdatoli (See p. 29)



b. A view of the pradakshinapatha of the stupa (See p. 29)

NAVDA TOLI MOUND III

SECTION OF TRENCH V A TO C FACING EAST

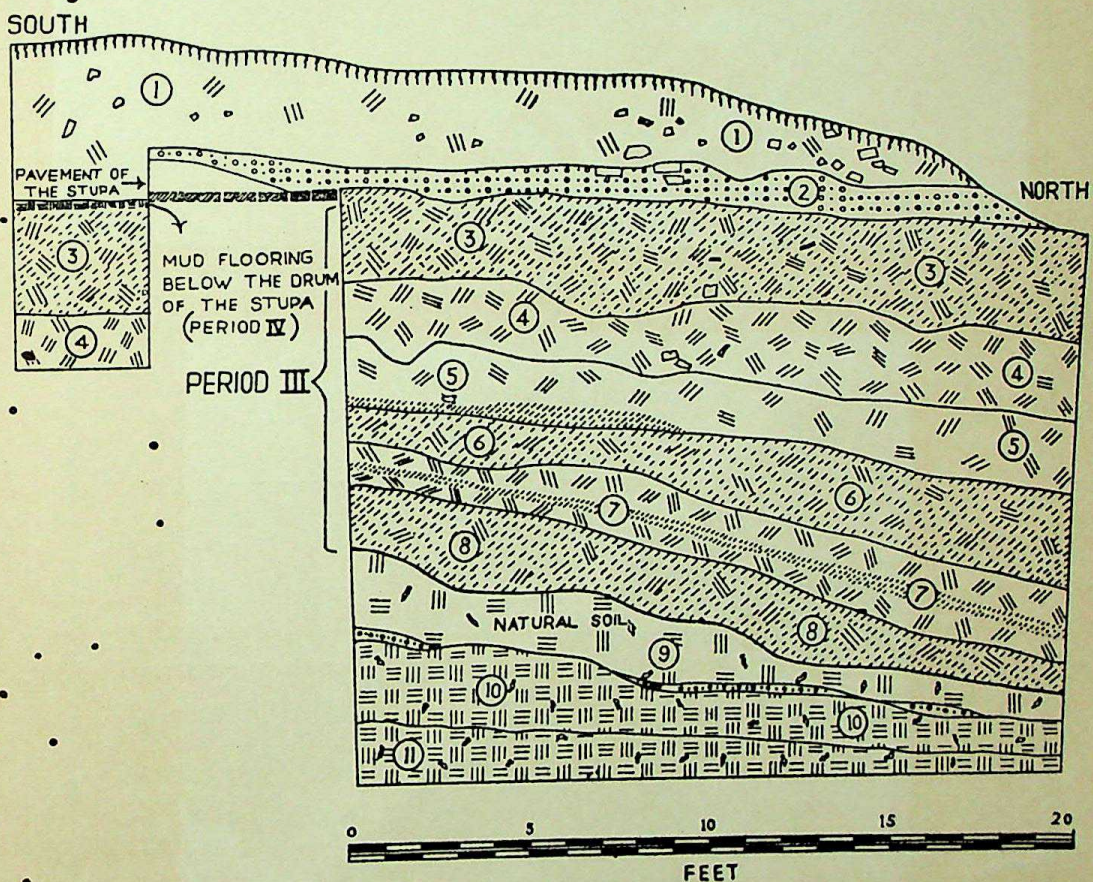


Fig. I (See p. 27)

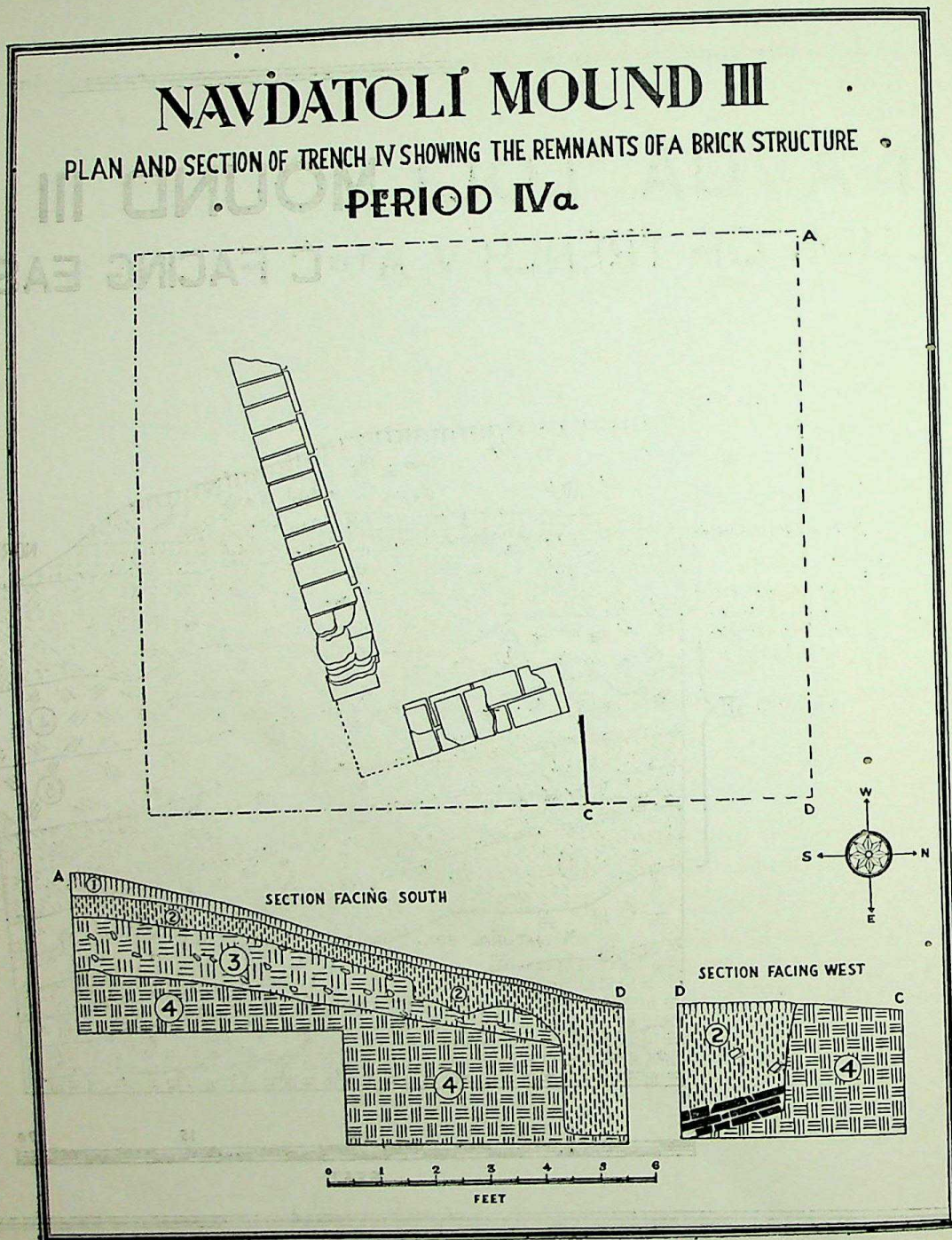


Fig. J (See p. 28)

STRATA, STRUCTURES AND SUMMARY

Trenches IV and V

As already remarked, Mound, III is trefoil-shaped with a large circular platform making an elevation at the western end. As the whole surface of the higher portion was full of brickbats, it was surmised that there might have been a circular structure which gave that shape to the mound. Even at the eastern end of the mound a brick structure was seen projecting at one point. Hence two long trenches perpendicular to each other and meeting about the centre of the higher portion were laid out. The E.W. trench (Trench IV), 6 × 200 feet, was intended to connect the wall at the lower end and to cut right across the centre of the top brick structure. This whole trench was not completely dug, a few gaps being left for convenience. Similarly another trench (Trench V) was laid in an N-S direction on the top portion of the mound.

Period III : (Fig. I)

The evidence on this mound is similar to that of Mound II. Here also the habitation started on the pinkish clay horizon with the advent of the Proto-Historic people. On the northern slope of this mound, in Trench V (running north-south) the deposits of Period III were extremely rich in painted pottery, microliths etc. Here the habitation started on the edge of the older terrace, as the layers 9, 10 and 11 constituting the natural soil, show a tendency to slope towards the north. Layers 3 to 8 constitute the deposits of Period III.

In Trench IV (running east-west), only a portion of about 30 feet was dug to a depth of about 10 feet below the base of the Stupa to observe stratification. As in Trench V, layers 4 and 5 yielded a large number of microliths and painted pottery.

Flood (Trench IV)

In Trench IV, a thin gravel (layer 3) consisting of evenly-bedded coarse sand and very small pebbles was found sealing the layers of Period III. Its height below our artificial datum (1000) is 19 feet (lying on the 981-foot contour). It corresponds, as already said, to layer 9 of Trench III on Mound II. (See p. 25).

Period IV

The most important relics of this period on Mound III are the Stupa and the remains of a small structure exposed at the base of the mound

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

towards the eastern slope. Before turning to the Stupa, it is better to dispose of this small structure.

Brick Structure (Fig. J)

In sub-square A and B of Trench IV, a structure, jutting out of the mound, was cleared. As suggested above Mound III seems to be the sloping portion of the old terrace under process of erosion. Hence the kankary clay which occurs below the black soil of Trench I and the pinkish clay of Mound II is exposed on the surface. Almost contemporary with the construction of the Stupa, a rectangular brick structure seems to have been built on the eastern end. Now what remains is only a corner of a house (?) made by two fragments of walls running WSW-ENE and NNW-SSE respectively making a right angle. The walls are made of well burnt bricks of a size $20 \times 11 \times 3$ inches (same size as those of the Stupa). Unfortunately the layers into which this structure was cut, as well as those sealing it, could not be observed due to erosion on the slope. In addition to it, there was a huge disturbance or a pit consisting of large quantities of ash and burnt earth, resting right on the wall; and this made the stratigraphic problem somewhat difficult. A portion of this wall was noticed in a collapsed condition lying obliquely in a pit cut into the kankary-brown clay, suggesting that the structure rested directly on the natural soil at the time of its construction (Fig. J). The walls consist of four courses of large bricks laid in alternate courses of headers and stretchers.

Stupa (Trenches IV and V) (Fig. K. Pl. IV a & b)

The huge circular brick structure resting on the flooded top of Mound III (after Period III) presents a number of complicated problems, as it was apparently incomplete. As already said, two long trenches running perpendicular to each other were laid with the idea of establishing the nature of the building. According to our expectation, four arcs or sectors of a narrow lime platform with the thick, straight side inwards and sloping outwards were noticed. Then the centre of this circle was established geometrically. These fragments of the platform constituted the outer rim of a circle of about 86 feet. In none of the trenches was the main structure encountered, but only the traces of a large platform of hard clay with impressions of large bricks $20 \times 11 \times 3$ inches were found. Hence it was conjectured that the lime platform constituted the circumambulatory passage (*pradakṣiṇā-patha*) of a Stupa, on the basis of similar narrow platform found around the Stupas at Kasravad, about four miles S-E.

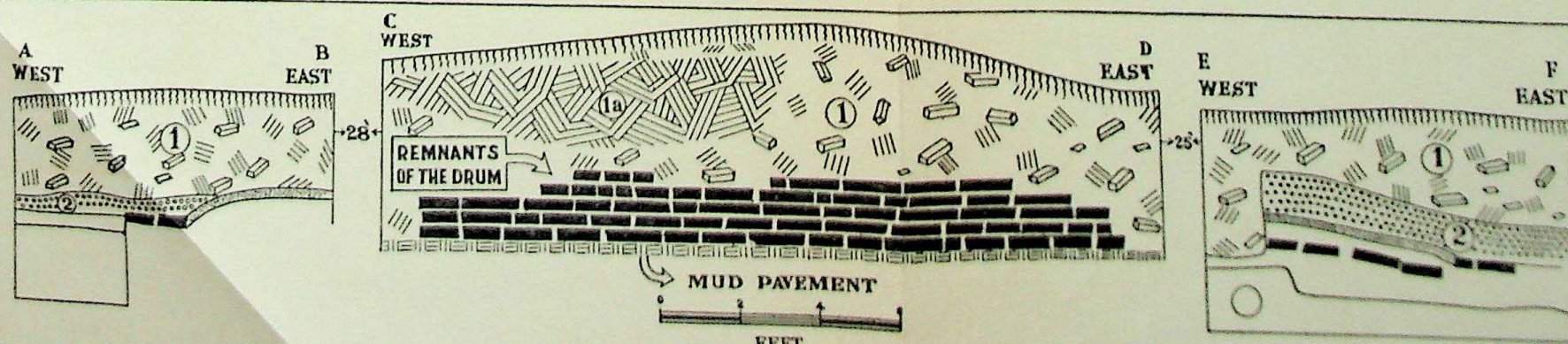
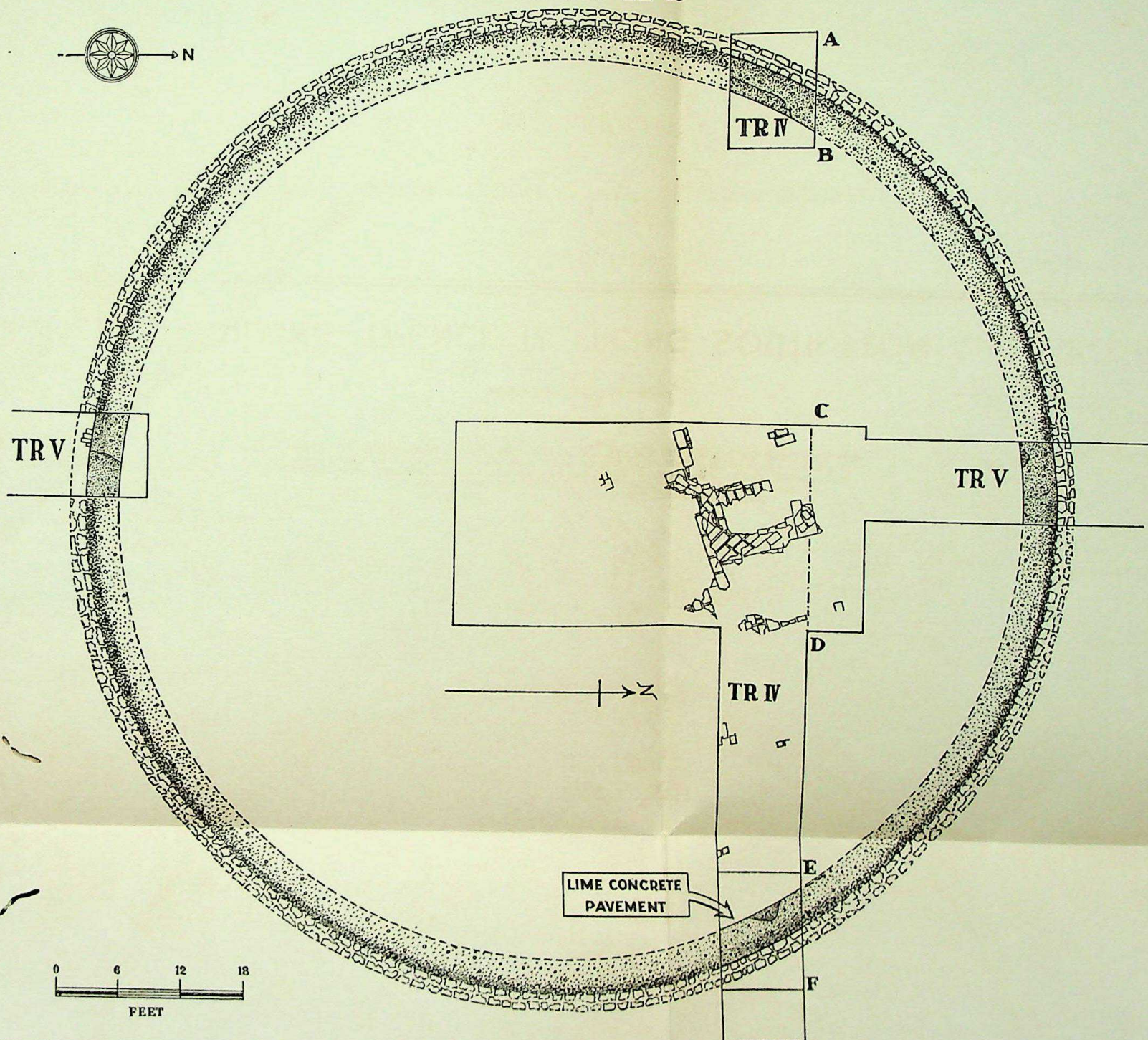
NAVDATOLI MOUND III

(MAHESHWAR)

REMAINS OF THE BUDDHIST STUPA

showing

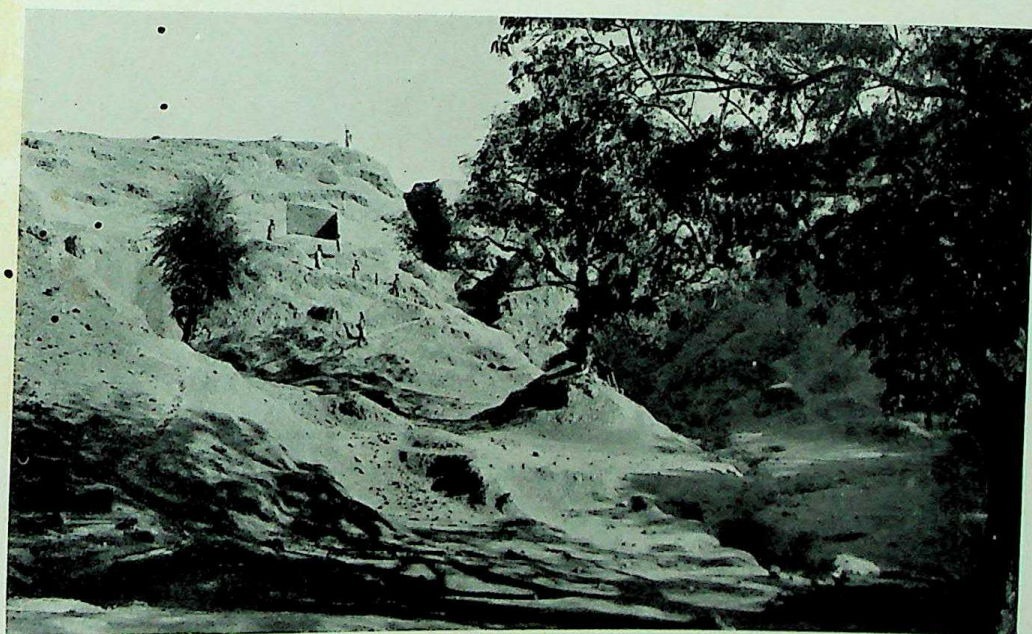
THE PRADAKSINA PATHA & BRICK STRUCTURE
PERIOD IV_a



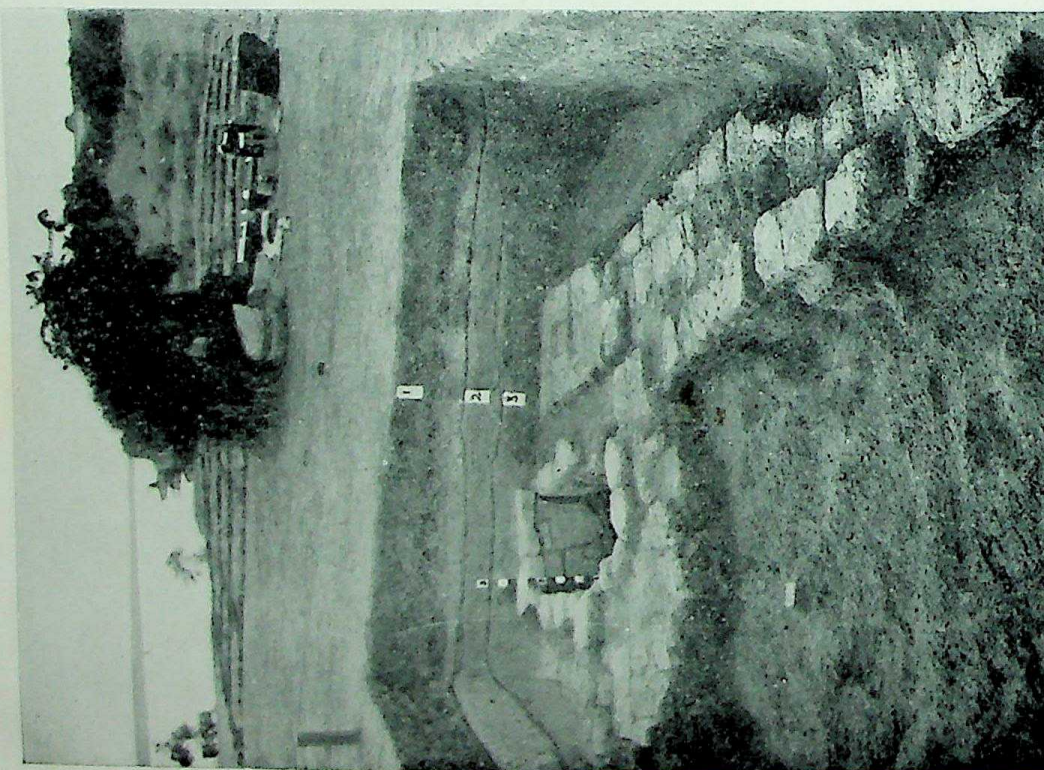
SECTIONS ALONG TRENCH IV FACING SOUTH FROM A TO B, C TO D & E TO F



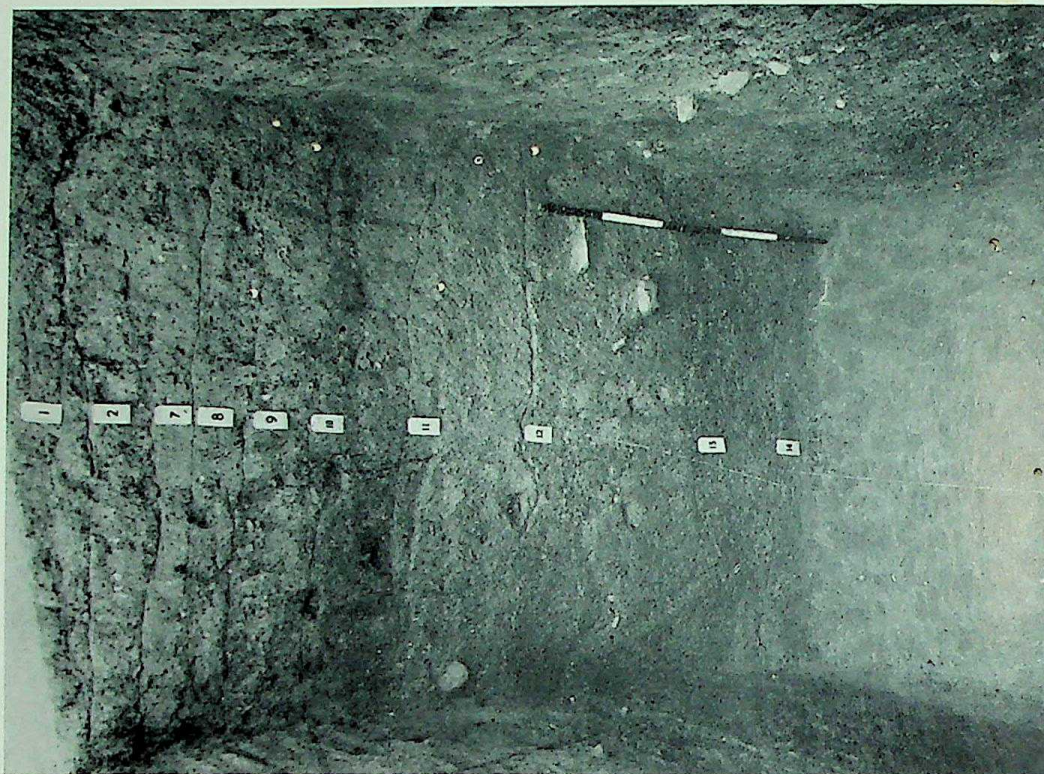
a. A view of the river Maheshwari flowing behind the mounds at Maheshwar (See p. 1)



b. A view of the Mandalkho from the river, Tr. II, Ext. on the slope, Maheshwar (See p. 30)



a. The brick platform and trough on the Jvaleshvar Md. I, Tr. I, Period VI, Maheshvar (See p. 30)



b. Section of Tr. III, Md. V at Maheshvar (See pp. 35-36)

STRATA, STRUCTURES AND SUMMARY

The most surprising phenomenon of this structure, considering the internal diameter of about 86 feet, is the absence of any evidence of foundation. In the centre of the mound only a few courses of large bricks $20 \times 11 \times 3$ inches were found resting directly on the mud platform. Where the bricks are missing there are impressions of the bricks on the platform suggesting that the central structure was constructed on a very thin platform of hard clay varying in thickness between 3 and 2 inches. Hence, from the nature of the construction, the central drum of the Stupa might not have been very high (or to put it another way, disproportionately small for a diameter of 86 feet).

Is it complete (?)

The circumambulatory passage is nowhere more than 5 feet below the highest portion of the mound. Another interesting factor which suggests that this structure was probably left incomplete is the consistent occurrence of an evenly bedded gravel resting right on the platform, noticed in all the four exposed sections. The position of the gravel in the central portion could not be observed, because of recent brick-robbery. According to the local information, bricks from the Stupa were carefully dug out to be utilised for the construction of a well in the neighbourhood. Actually the bricks are of the same size. In the course of this brick-robbery, the top gravel seems to have been disturbed and the "robbers' pit" consisting of debris is found cut into the gravel. Hence there are two possibilities: either the Stupa construction was given up owing to the flood or the incomplete Stupa was later submerged by flood. But the date of this abandonment or destruction cannot be ascertained exactly.

Circumambulatory passage (?)

As already explained, four sectors of this platform around the Stupa were exposed. Their construction is simple. It consisted of a single course of broken bricks resting on the hard mud platform. On this were placed river pebbles and small brickbats. After placing a few small pebbles again, a lime concrete was placed on the top in a sloping manner. The width of this platform is about four feet. Its function is somewhat doubtful on account of its narrowness as well as sloping character. The possibility of its function being to drain away the water and preventing it from soaking below the structure cannot be overruled.

Date of the Stupa

As to the age of the Stupa, it belongs to Period IV. In sub-square K of Trench IV, an NBP sherd was found below the mud platform. A number

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

of bricks of the drum portion have single Brāhmī letters of the Aśokan type suggesting the 3rd century B.C.⁹

Maheshvar

As already described, excavations were carried out on Mounds I, II and V, where the most interesting feature is the difference in the habitation periods of each of these mounds suggesting an eastward extension of the city in Period IV. Chronologically the earliest habitation on the north bank (Maheshvar side) started on Mound V. But it is proposed to deal serially according to our trenches.

Mound I : Jvaleshvar (Trench I) (Pl. Va)

This mound stands like a high precipitous ridge between the rivers Narmada and its tributary Maheshwari. At the eastern end, overlooking the confluence is the modern temple of Jvalesvar. As the whole area was very badly eroded only a small trench 20×10 feet was laid in an E-W direction. The natural soil, consisting of yellow silt with kankar was struck at a depth of 10 feet.

Period VI (Fig. L and Pl. VIa)

The most striking fact about this trench is the occurrence of Red Polished Ware ; so the area belongs to VI (100-500 A.D.). The habitation started on the yellow silt (Layer 7). The most active phase seems to be represented by two structures belonging to the same phase. A brick platform of two courses with a cistern 3×2×2 feet was found oriented SW-NE direction. The bricks measure 15×10×3 inches. The platform rested on layer 4 and is sealed by layer 3. The other structure is a crude pebble wall running N-S at the eastern end of the trench.

On the top (layer 2), a number of fragments of moulded bricks were found, but the exact nature of those bricks and of the original structure cannot be determined.

Maheshvar—Trench II (Mandalkho) (Fig. M and Pl. Vb)

The most impressive section of the old site on the north bank of Narmada is the one exposed at the eastern end of the citadel. Here the habitation started on the black soil capping the alluvium at about 120 feet above the water level. In the 'Thirties' Shri KARANDIKAR cut through the

9. It is very interesting to note that the Stupas at Kasravad also belong to the same date on account of brick sizes as well as associated finds, like the NBP. Hence, it is tempting to conjecture that they belong to the Mauryan Period. According to the accounts of the II Buddhist Council held during the reign of Aśoka, priests were dispatched to Mahissati also. These remnants might represent the early Buddhist settlements of that period.

deposits of Mandalkho but the results of his excavation have not been published. So a trench 80×15 feet was laid on the open top about 15 feet west of the old cutting. Here the natural soil consisting of the black fissured clay was struck at a depth of about 46 feet. On account of the immense depth, and disturbances in the top layers and the number of structures, the whole trench was not dug upto the same depth, but was abandoned at various stages, deeper digging being confined to about 20 feet. Here the thickest habitation debris belongs to Period IV.

Period II

In the black soil (layer 20), was found a single irregular core of jasper belonging to the Pre-historic Period. In view of the wide distribution of this industry around Maheshvar and the small size of the area exposed at that depth, we may ascribe this core to Period II with some confidence.

Period III

As already remarked, but for stray occurrence of microliths in different layers of the Early Historic Period, there is no trace of any habitation of the Proto-Historic Period (III) on this mound.

Periods IV-VI

A deposit of about 31 feet (layers 4 to 19) represents the debris of Periods IV-VI. The sub-division of this huge deposit, as already explained, rests on the relative distribution of the crucial pottery types, particularly the Red Polished Ware and the black-and-red ware.

Layer	Period	Red Polished Ware	Black-and-Red
1	VII	1 + 4 crude variety	3
2		5	—
3	VI	23	1
4		32	1
5		25	1
6		—	2
7		1	1
8	V	—	1
9		—	8
10		—	13
11		—	34
12		—	40 NBP
13	IV	—	231
14		—	611 NBP
15		—	143
16		—	135 NBP
17		—	185
18		—	367
19		—	—

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

This period represented by layers 13 to 19 is characterized by the predominance of the black-and-red ware in association with NBP and punch-marked coins. There is no evidence of structures belonging to this period, but the layers show some indications of disturbed floor levels. For example, the layer 18 has definite patches of gravel and burnt brickbats suggesting again a floor level.¹⁰ But the layers do not show any major disturbance and some of them yield tile pieces indicating regular habitation in the proximity. Another floor level is indicated by the finding of the two large storage jars and large patches of burnt earth and charcoal in layer 14.

Period V

This period is more or less isolated by the sudden fall in the black-and-red ware and the predominance of the coarse and red slipped wares, in layers 12 to 8. There are no structures in this period in our trench, but the other circumstantial evidence of continuous habitation is provided by the existence of brickbats and tile bits in the debris.

Period VI

This is probably the most active phase in our trench area, when a structure makes its appearance. But it may be noted as a whole that the layers of this period are very badly disturbed and huge refuse pits mar the stratification. But the position is saved by the existence of the structure and the site seems to have been left with the abandonment of the building. The most significant feature of this period is the appearance of the Red Polished Ware which does not occur in the pre-structure layers as the table showed.

Period VI Structure 1 (Fig. N and Pl. VII a)

A part of a large brick structure with pebble and mortar foundations was found projecting out of the western section of the trench (section facing east). The remnants show the existence of three parts—two small rooms, *verandahs* on either side of a large room. The total length of the extant structure was 30 feet. Only a small portion of the top bricks of the plinth could be noticed. The structure is cut into layer 6, the foundation portion, being the pebble wall. The plinth above it has been destroyed by subsequent disturbance, indicated by refuse pits etc.

10. SANKALIA and DEO, *Report on the Excavations at Nasik and Jorwe* (Poona 1955) p. 13.

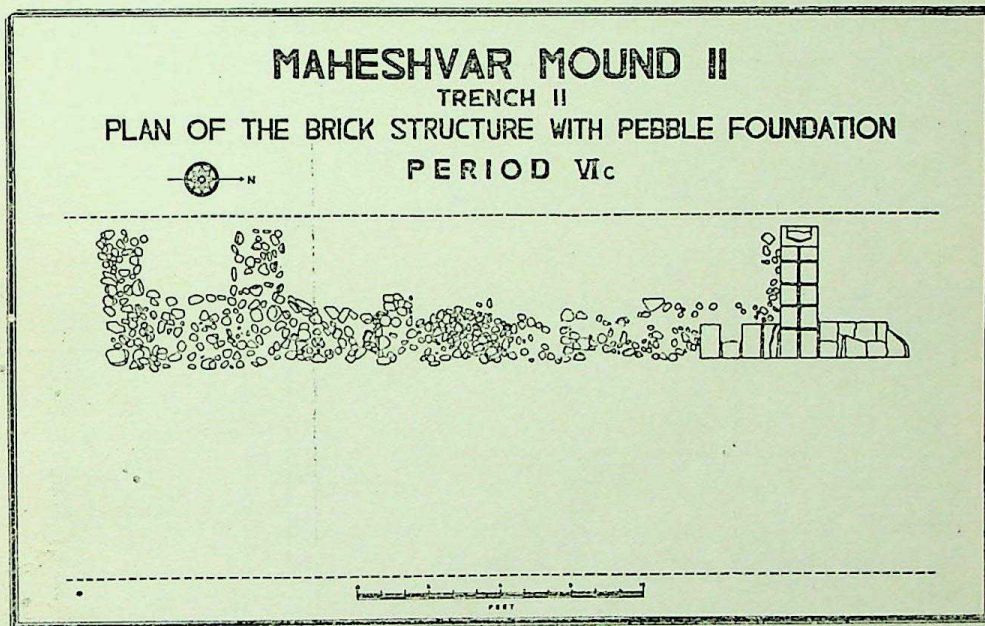


Fig. N (See p. 32)

MAHESHWAR MOUND II

MANDAL KHU

PLAN OF TRENCH II SHOWING THE STRUCTURES OF PERIOD VII

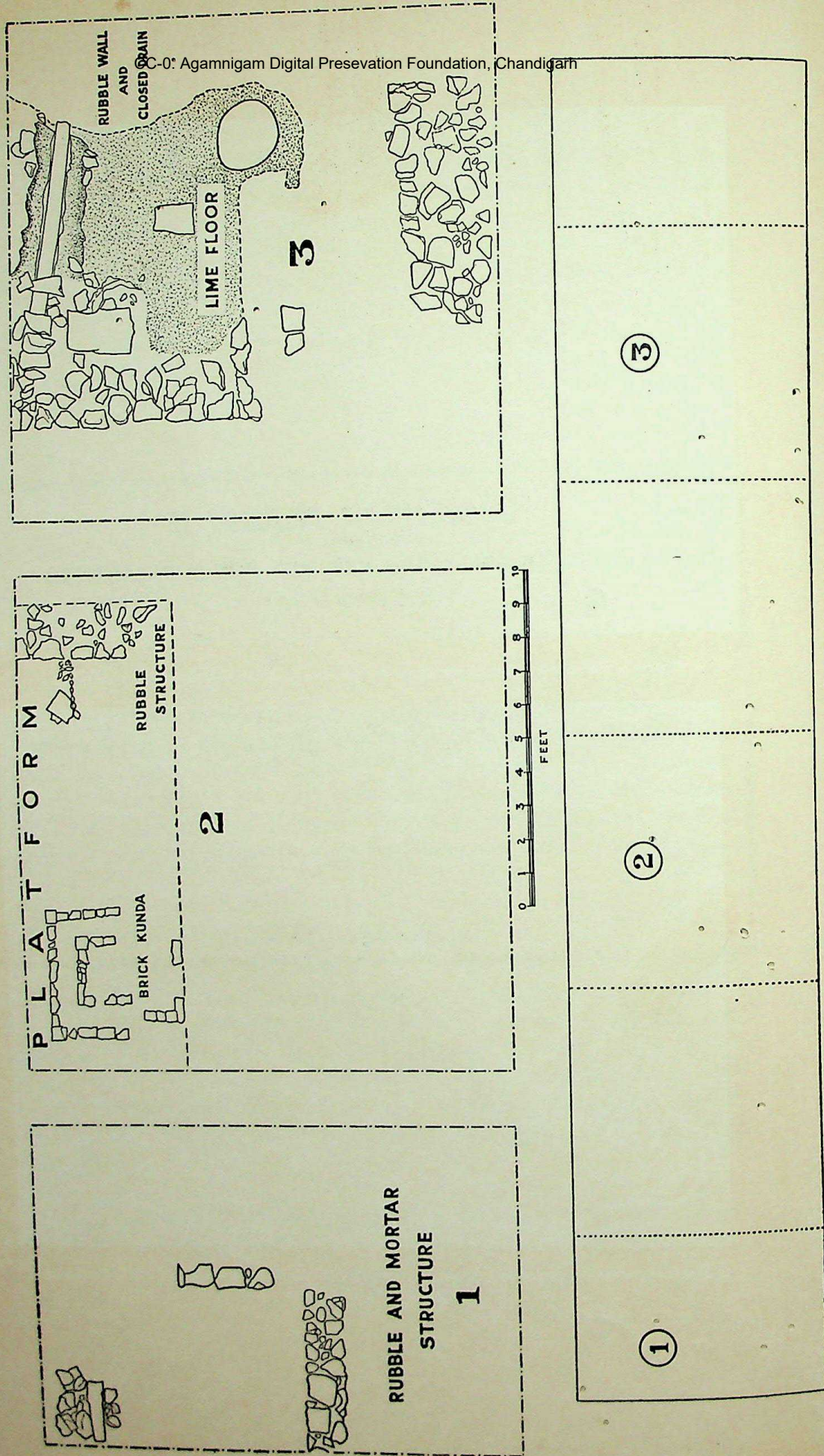
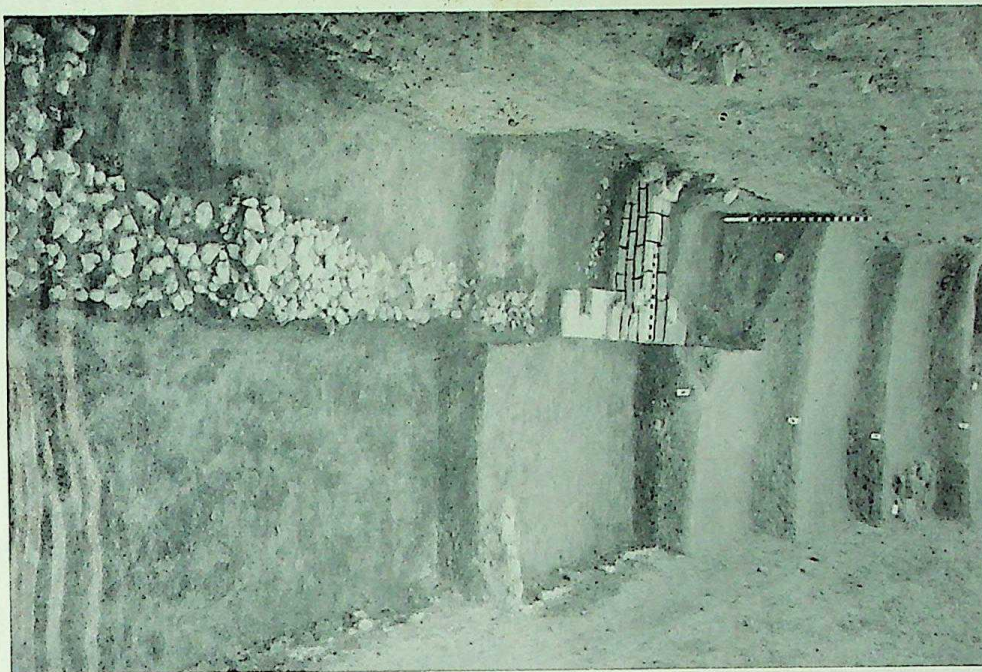
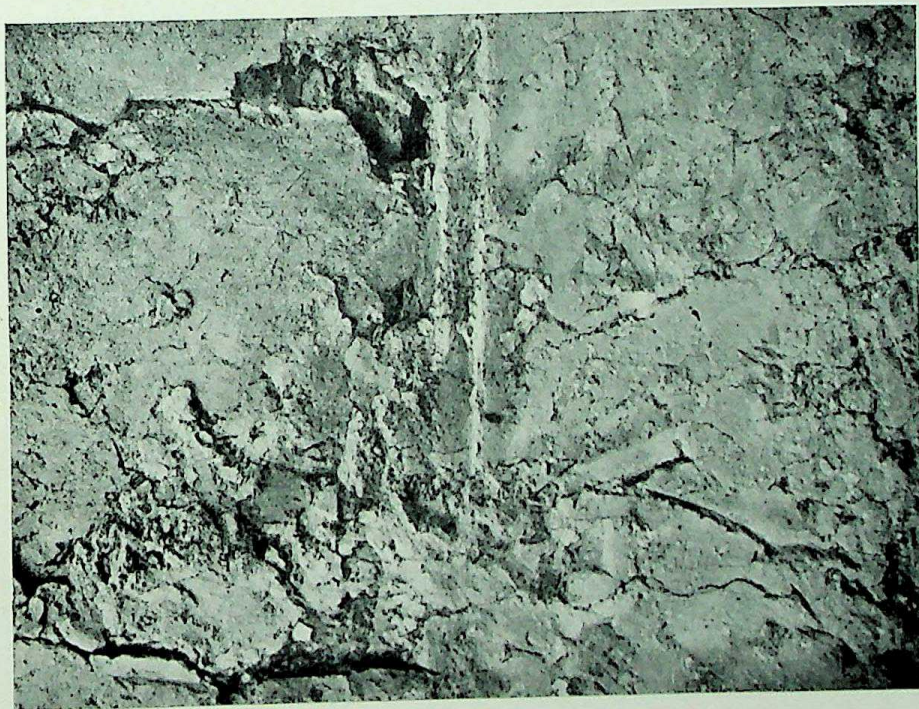


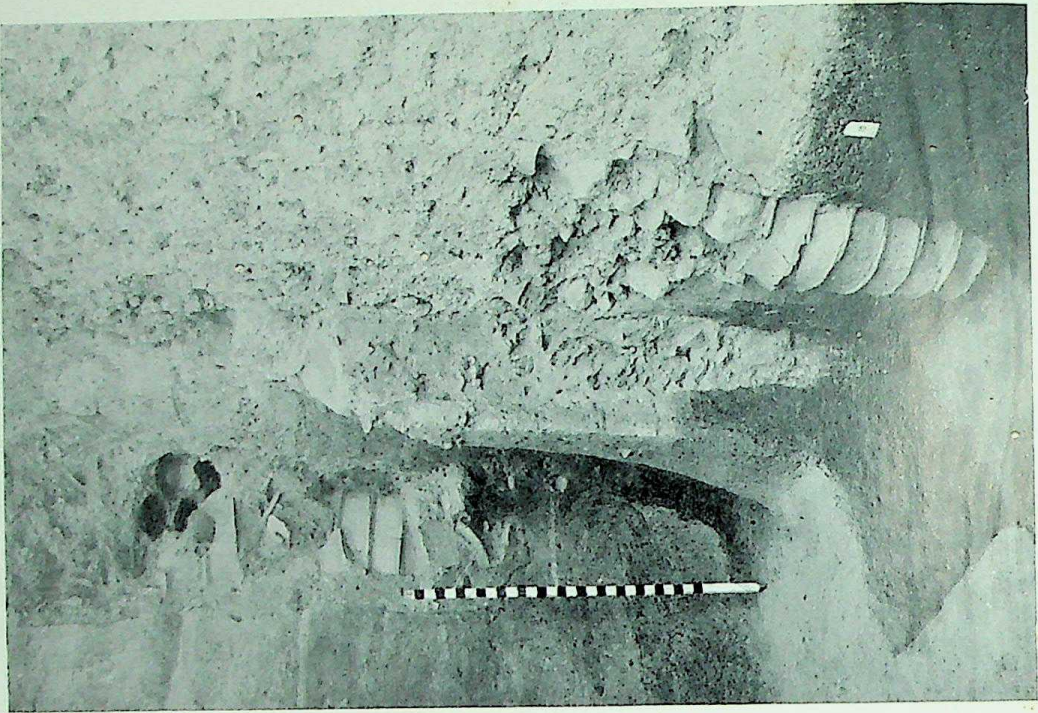
Fig. O



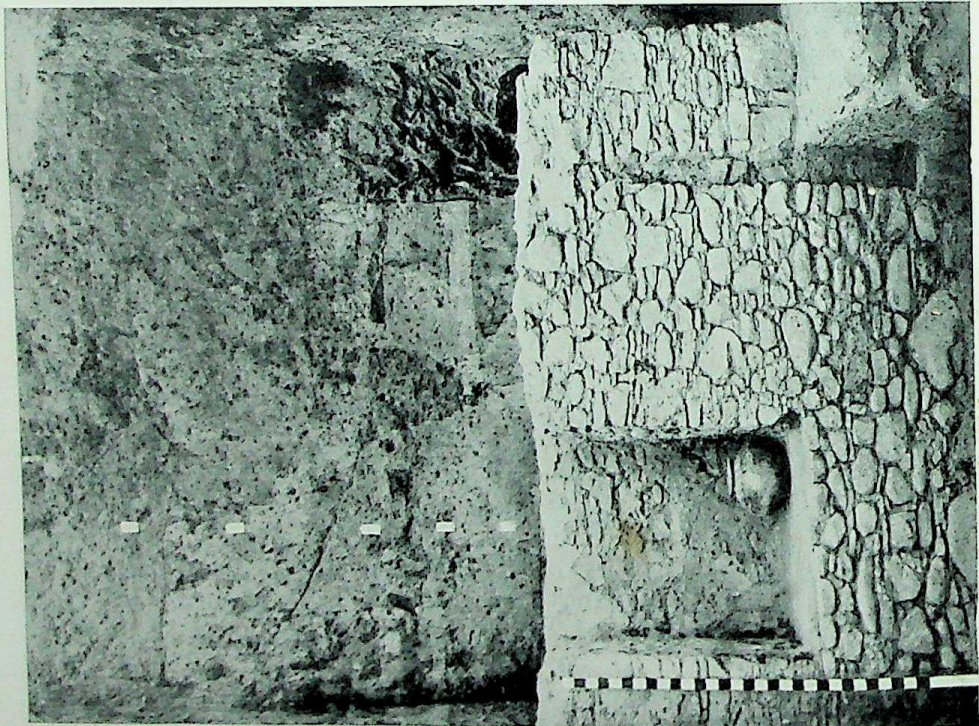
a. A view of the rubble and brick structure in Tr. II, Md. I, Period VI, Maheshwar (See p. 32)



b. Traces of plaster and cusped arch decoration on the wall of the house in Tr. II, Ext. Md. II, Period VII Maheshwar (See p. 34)



b. Ring-wells in Tr. II, Ext. Md. II, Period IV Maheshvar (See p. 35)



a. The niche in the same house (Pl. VIIb) with a pot in situ (See p. 35)

STRATA, STRUCTURES AND SUMMARY

Period VII

The area seems to have been abandoned for a very long time after the end of Period VI and became a sort of a dumping ground as the uneven bedding of layers and their mixed constitution shows. The latest phase of habitation is represented by a series of structures just below the present ground level. The layers 1, 1a and 2 represent the debris of the period. There are three groups of structures and all of them are sealed by layer 1. Even the rough method of construction is uniform in all the cases and all the structures belong to the same period. The upper limit of these structures is indicated by the existence of Islamic glazed pottery and it is very difficult to ascertain the lower limit and hence they have been ascribed to a vague one, called the "Muslim-Maratha Period".

Period VII—Structure 1 (Fig. O)

This consists of a crude rubble structure of stones. There are three fragments of walls together making the three sides of a room. The wall on the eastern side, which is well-preserved is 18 inches in width and is cut into layers 1a and 2 and sealed by layer 1. The total height of the extant wall is 2 feet 8 inches.

Period VII—Structure 2

This consists of a large lime concrete platform, about 15 feet 8 inches long, resting at one end on a rubble structure. At the southern end of this platform there is what may be called a brick "kunda" or rectangular trough, probably for the installation of a small deity in the centre with a drain all round. It is built of very small bricks ($6 \times 3 \times 1$ inches) and consisted of four courses, these bricks being of the well-known Mughal type. The central portion consists of about 2 feet square with an open drain all round and enclosed again on the outer side with another small wall of bricks of four courses of the same size. It is difficult to be certain of its function, but it has been called a "kunda" on two grounds: the existence of similar platforms on the river side and the finding of a small figure of a "Nandi" of a very highly conventionalized crude type close to the broken edge of the platform in the trench.

Period VII—Structure 3

This is another complex structure with a closed drain of stones and a lime concrete platform. The walls are about 3 feet thick and the extant remains point to its being a room, two walls of which can be easily recognized. That running east-west is about 7'-10" long, while the one running

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

south-north is about 7'-2" long. The drain which is plastered and is closed by stones runs obliquely making a slight angle from the alignment of the walls. But it seems to run across the middle of the room as the outer wall is not visible in the trench. In between the walls is a broken platform of lime concrete with one rounded hole about 2 feet in diameter and another rectangular one 10×15 inches. The walls of the pits are also lined with lime. But it is not possible to guess their function.

Trench II—Extension

As already described, there is a low valley or 'kho' with a separate entrance from the river Narmada surrounded on all the three sides by huge cliffs capped by the habitation debris. The fort walls are built on these high cliffs. Overlooking this entrance from the river, at a midpoint on the cliff, there is a small platform, retained by the existence of a fairly complicated structure. It must have been deliberately built, probably at the time of the construction of the fort as something like a watch-post. But due to the subsequent rapid erosion and washing away of the deposits on the higher terrace within the fort, the collapsed material has completely buried the structure on the lower level. The excavation brought to light this structure, which belonged to the Muslim-Maratha period. Only a portion of the building was exposed, and this is described below.

Period VII—1st Phase—Structure (Fig. P)

This structure consists of a long verandah having an entrance with a wooden door frame with an internal measurement of 2×8 feet, pointing to the existence of an unexposed interior of the house. On either side, this doorway is flanked by retaining brick walls, one foot wide, with small niches. The rest of the wall consists of rubble structure with a wooden frame, which has disintegrated neatly leaving spaces in the wall 6×6 inches in size showing the position of the beams. There seem to be 6 wooden posts set up at about 5 feet intervals. The whole wall is plastered and has a niche forming a very shallow recess in the shape of a rectangle below with a cusped arch on top. (Pl. VII b). There are traces of fresco decorations in red and white, but they are very indistinct. This wall, about forty feet long, seems to be the inner side of a verandah, with heavy dressed stones forming its outer face and traces of stone bases of wooden pillar posts corresponding exactly the wooden posts in the walls. Actually, two of the stone posts are still *in situ*. They consist of dressed stones (10×10×8 inches) with recessed top and holes, 2 inches in length and width, to receive the end of the wooden post.

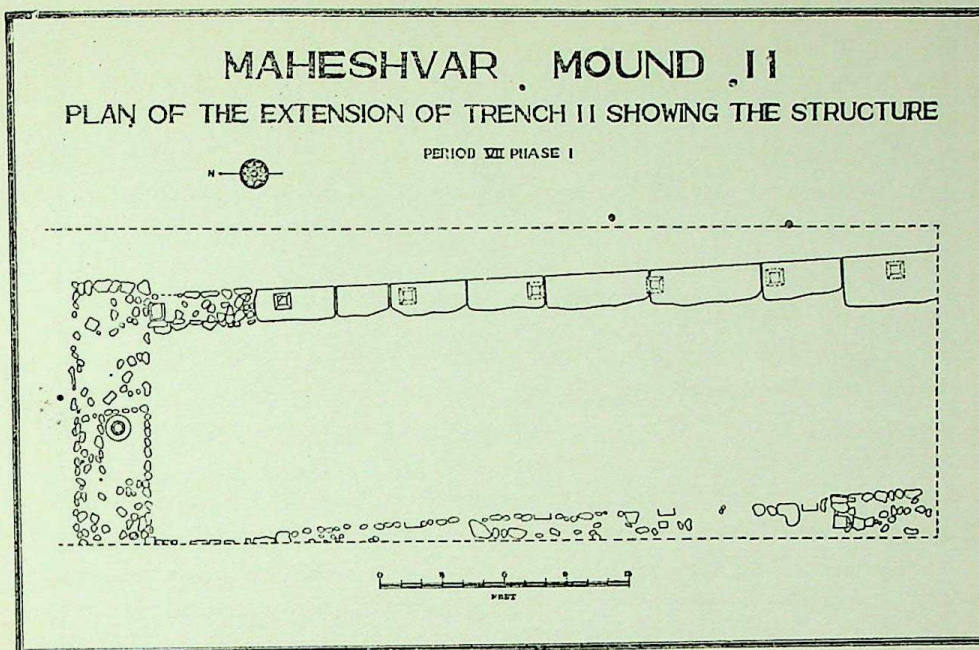


Fig. P (See p. 34)

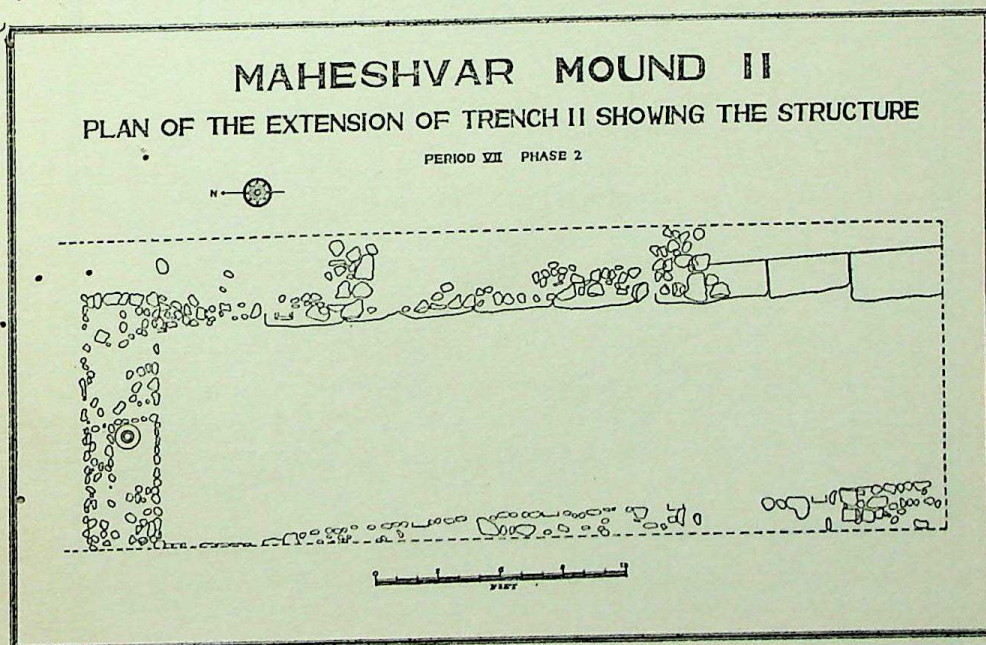


Fig. Q (See p. 35)

MAHESHVAR MOUND V

SECTION FACING EAST

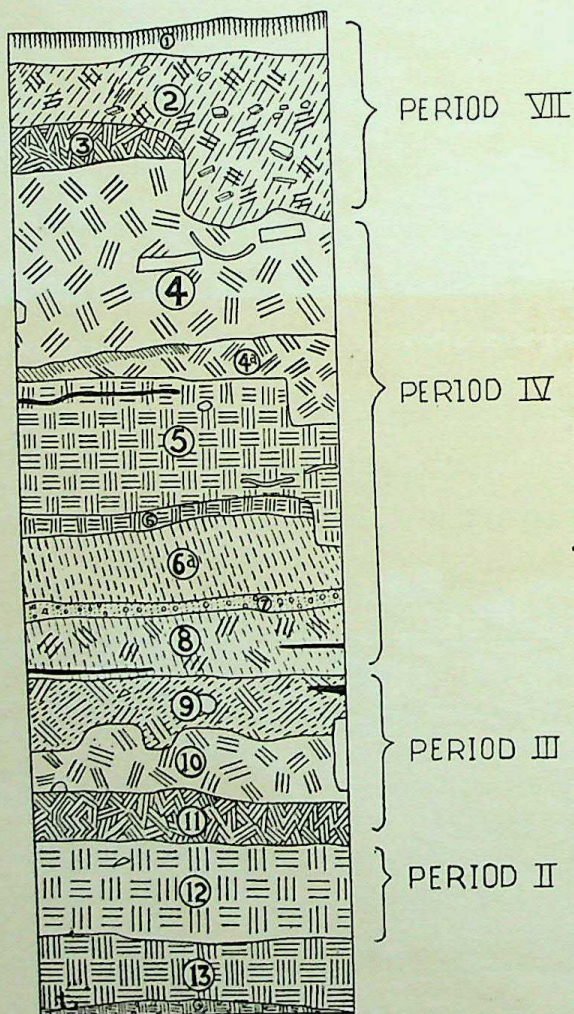
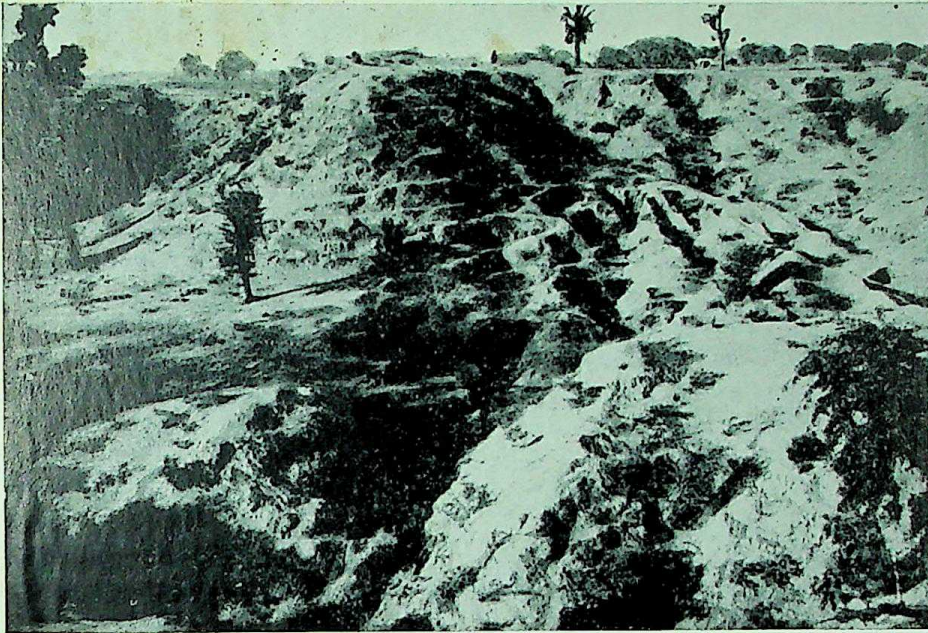
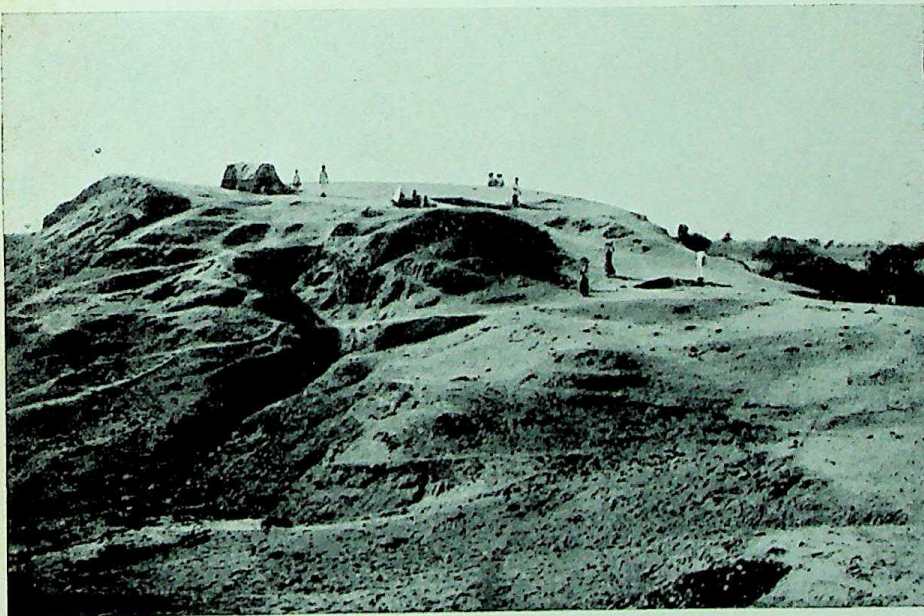


Fig. R (See p. 36)



a. A view of the mounds on the western side of Maheshvar showing the extent of erosion of the old site (See p. 35)



b. A view of the Dhanbedi (Md. V) at Maheshvar (See p. 35)



Finished Tools of the Chalcolithic Blade Industry (3/2) (See p. 50)

STRATA, STRUCTURES AND SUMMARY

At the northern end, there is a rubble retaining wall. Apparently when this structure was built, the cliff-face was cut and the ground flattened to allow the construction, and the face of the cliff was reinforced by a rough wall about 3 feet thick. There is a large niche or a cupboard in the wall opening on to the verandah (Pl. VIII a). This structure was cut right into the black soil and the foundations are cut into ring-wells of Period IV (Pl. VIII b).

Period VII—2nd Phase—Structure (Fig. Q).

At a later period, the open verandah on the eastern side was closed by constructing a rough rubble wall, probably to protect the house against the collapse of material from the higher level.

There is no clear evidence to prove the age of the building and the house seems to have been abandoned due to constant threat of erosion and collapse of materials from above. No antiquities were found, but it seems to belong to the Muslim-Maratha Period (VII). It may be contemporary with the fortification of the area.

Period IV

It may be noted that there is no evidence whatever of any well-preserved remains of the Period IV, since the construction of the structure described above (Period VII) itself might have led to the disturbance of the lower layers. Behind the retaining wall of the later structure a few feet of the earlier deposits were exposed. The most interesting evidence was the existence of two ring-wells cut from layer 6. Actually, one end of the well-pit was cut through for the retaining wall and in one case the wall rests on the rings themselves.

Maheshwar—Mound V—Trench III (Fig. R. Pl. IX a and IX b)

This is an isolated high mound to the west of the town and is also away from the river. It rises to a height of nearly 80 feet above the bed of the *nālā* and is being rapidly eroded. At the western end there is a flat top sloping rapidly towards the next bench or level on the mound. So a long trench 60 × 8 feet was laid connecting both the levels of the mound with deeper digging concentrated at both the flat ends. Here, excavation revealed habitation of three periods. But in the portion of the trench at the lower level the debris of Period IV was almost washed away. As the trenches were close enough, the soil layers could be correlated and there were very

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

significant overlaps. Hence the material from both the two sub-trenches has been treated together.

Period II

This trench was the most fruitful as far as the Pre-historic material is concerned. As usual, the black soil (layer 12) seems to have been the deposit associated with this industry. Two cores of it were found in the excavation. (See page 39 below. Fig R).

Period III

The higher trench (sub-squares A and B) and the lower trench (sub-squares H and I) are separated by a 40 feet stretch of sloping ground and there is difference in level of about 11 feet between the extreme ends. This would account for the destruction due to erosion of the deposits of Period IV in the lower trench. But, naturally, the top layers of the lower trench contain washed out material of the Period IV from the top trench. So the pure undisturbed material of Period III in this area comes from layers 9 to 11 which can be equated with the corresponding layers at the higher end of the trench on the basis of their constitution and composition. The finds, however, are the same as those on the south bank, the most characteristic being : white-and-cream-slipped pottery with black designs, red ware with black painting, black-and-red ware, microliths, hammer stones and one mace-head with an hour-glass section.

There is absolutely no evidence of any structures in the trench, but one definite habitation level is indicated by deep post-holes cut into layer 10 in the top trench, while layer 9 in the lower trench shows series of ash and charcoal bands.

Period IV

As already said, the evidence of this phase in the lower trench is disturbed. But the top trench has preserved to us a thick deposit (10 feet, layers 4 to 8). Here as at Navdatoli, the predominant wares are the black-and-red pottery and the NBP. There was only one definite habitation level indicated by the existence of a pavement of rounded pebbles from the river, which rests on layer 4.

Period VII

The trench was too small and the layers were also found to be badly disturbed. The only firm habitation is indicated by a rectangular foundation-

LITHIC INDUSTRY OF PERIOD II

pit near the northern end of the trench. This pit preserves the evidence of "ghost wall", whose existence can be inferred from the shape of the pit and heaps of pebbles found in the pit. The evidence of dating of this phase is provided by the Islamic glazed ware.

III

LITHIC INDUSTRY OF PERIOD II

In the course of the excavations, a few large cores were found in the virgin soil in the trenches at Maheshwar (Mounds II and V). These seem to form part of the industry characterized by flake blades, scrapers, burins and borers or points found at a number of localities around Maheshwar and Navdatoli. Their occurrence in the trench does not indicate any great stratigraphic significance, since a few specimens could lie on the surface before the habitation of the Proto-historic Period. As a large number of localities where these occur were explored, it is proposed to describe here a typical assemblage of the industry.

Before the explorations in 1953, our knowledge of this industry rested on the work of De TERRA and PATERSON at Narsinghpur and Hoshangabad. Here they discovered it in the basal gravels of the black soil and designated it as the "Black-soil industry"¹. Subsequently, Dr. SANKALIA and his colleagues have brought out important evidence bearing on the stratigraphic evidence of this industry in the Pravara basin, in the Godavari, as well as the Malaprabha in Karnatak, the Tapi in Khandesh and the Chambal and its tributaries in Malwa. He has advocated the use of the term "Middle Palaeolithic"², which involves certain terminological troubles of a serious nature pending further investigation. Hence his earlier more non-committal term Series II seems to be more acceptable.³ For purposes of convenience its stratigraphic position at Nevasa may be stated as follows: Here in the basal gravels were found Abbevillo-Acheulean tools (Series I) with some tools of Series II. But in gravel II, we get a large number

1. This seems to have given rise to some misunderstanding that it is associated with the Black-soil, which is only a subsequent weathering *in situ* of the silt resting on the basal gravels.

2. H. D. SANKALIA and BANERJI. "The Middle Palaeolithic Cultures of the Deccan Karnatak and Central India" *Journal of the Palaeontological Society of India*. H. D. SANKALIA and A. P. KHATRI. "Stone Age Culture of Malwa," *ibid*.

3. H. D. SANKALIA "Animal fossils and Palaeolithic Industries from the Pravara basin at Nevasa, District Ahmednagar." *Ancient India*, No. 12, 1956.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

of tools of Series II. The juxtaposition of these two industries, which are, typologically and technologically (as well as from the point of view of raw material), of a different character, remains to be understood and interpreted properly. At the same time, where both the series do not occur in the same section, as at Kalegaon and Belpandhari, there is evidence of an exclusive distribution. •

In the winter of 1957-58, an attempt was made to correlate the lithic industries with the terrace sequence of the Narmada. A detailed study is being made and the provisional sequence may be stated as follows. Sometime in the Mid-Pleistocene, the river reached more or less its present level and started to aggrade in a drier climate. The first dry phase is represented by the basal conglomerate and the clay resting on it, which has been described earlier, as the 'Lower group'. When this aggradation stopped, we have an evidence of an intense activity in the river indicated by the second gravel deposit. This gravel has been removed and at some places the underlying clay has been tilted.⁴ The second gravel and the over-lying clay constitute the 'Upper group'. The top of this constitutes the highest terrace in the vicinity of the river and it lies at about 80 feet above the present level and stretches about 3 miles on either side in the Maheshwar area. At the end of the second dry phase, the river started eroding and cut down, at places, to the level of the II gravel. In the third dry phase, a lower terrace about 40 feet above the present water level was formed. The basal gravels of this lower terrace consist of medium to fine pebbles (mostly of trap in contrast to the coarse and large quartzite pebbles of gravels I and II) and it yields the Middle Stone Age Industry.⁵

The association of *Bos Namadicus* (Falconer) suggests a very high antiquity. However this fossil occurs through all the phases of Narmada, Upper as well as Lower groups⁶ and now at Kalegaon with this industry also. So this industry may be dated at least to the Upper Pleistocene period.

Typologically, the industry seems to be identical with Series II from Nevasa, and the sites mentioned above, as well as that found in the sections

4. ZEUNER, F. E., *Stone Age and Pleistocene Chronology in Gujarat*. Deccan College Monograph series No. 6. Poona. 1950 p. 29 and fig. 11.

5. SUBBARAO, B., *The Personality of India*, for a discussion of terminology see 13.

6. De TERRA and PATERSON, *op. cit.*, p. 318. KRISHNASWAMI, V. D. "Prehistory in India", *Ancient India* No. 3. 1947, Pl. XIV.

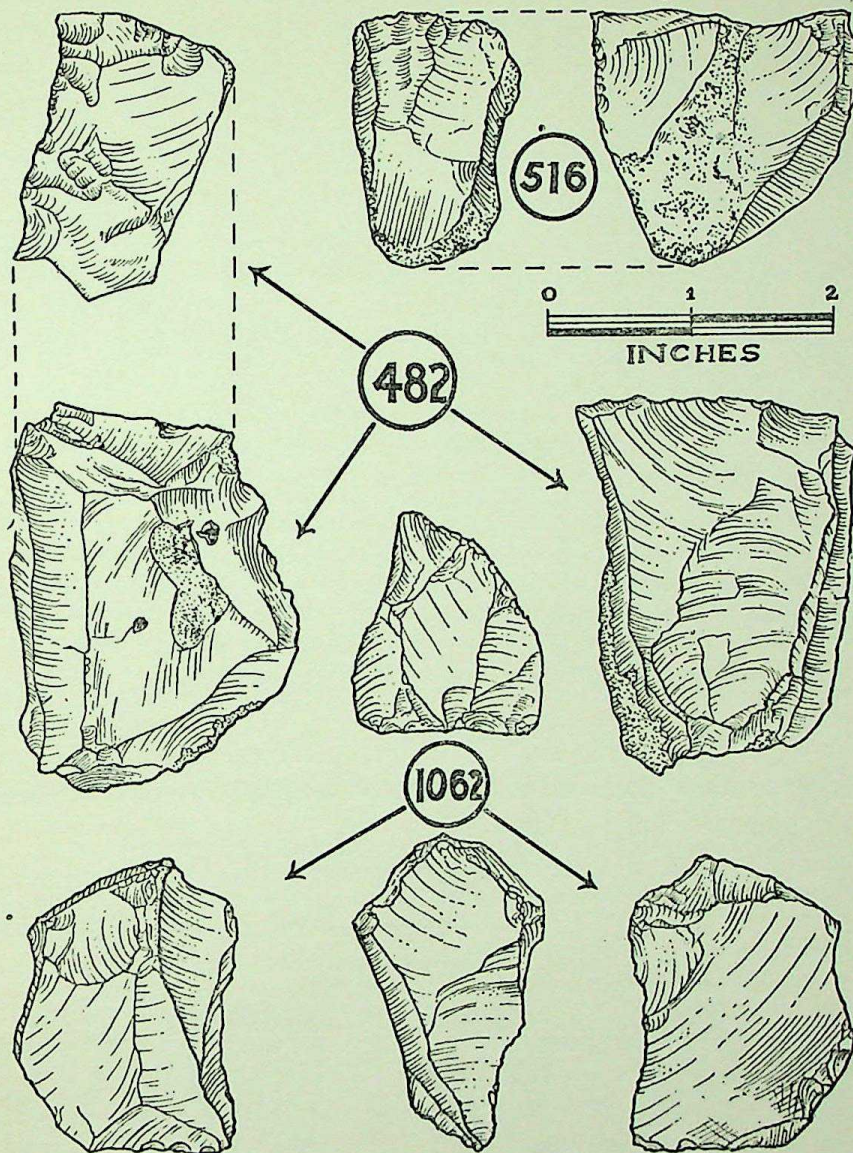


Fig. S
Cores and tools from the excavation (See p. 39)

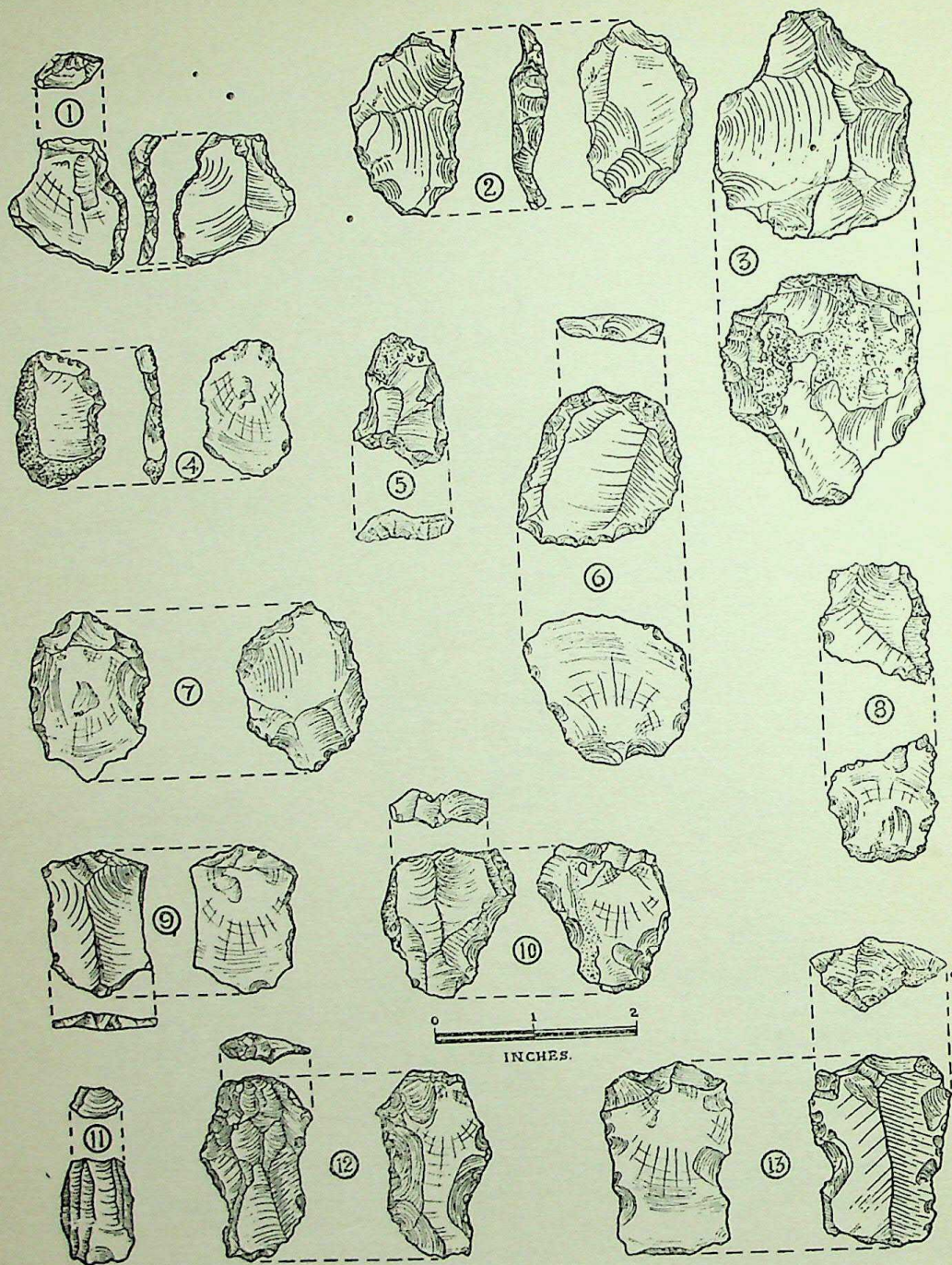


Fig. T
Middle Stone Age tools from the Maheshvar area (See p. 39)

LITHIC INDUSTRY OF PERIOD II

from the Bombay area.⁷ All have a preponderance of scrapers, points and borers, but the Nevasian has comparatively very few burins. The Maheshwar group is described as under :—

Fig S. (From the excavation).

- 482 A large core of jasper. MHSR. V, (8).
- 1062 Core of red jasper. One edge shows evidence of retouch, probably for scraping. MHSR. II, (19).
- 516 Another crude core of green jasper with a large cortex, MHSR. V.

Fig. T.

1. Side-end scraper of reddish brown jasper. Platform worked, though not elaborately. Edges well worked.
2. Side-end scraper of light red purple jasper. Very well worked all along the edges, more on the side than the ends. Platform removed and one side shows steep flaking on the side.
3. Point-cum-scraper on a thin core with cortex on one side. One of the sides shows working, suggesting that it could be a scraper.
4. Side and hollow scraper of reddish green jasper with a small but facettted platform. One edge worked slightly to give an incipient double hollow scraper. On the opposite side cortex remains but has slight retouch. (Are they use marks ?)
5. Double hollow-scraper on pale reddish green jasper with a facettted platform. Slight retouch all round, but one side has steep working to form a scraper.
6. Side-end scraper on a greyish jasper with a facettted platform, retouched all round, but steep retouch at one side on the non-bulbar side.
7. Side-end scraper on red and green banded jasper thick towards the bulbar end, and with retouch around.
8. Leaf-shaped side scraper on a mottled red jasper with a facettted platform. The back has retouch on one side.
9. End scraper on a flake with facettted platform. It is retouched on the non-bulbar side.
10. Side scraper on a dark brown jasper flake with prepared platforms. There is no elaborate working, but near the non-bulbar end there is a notch on either side worked from both the surfaces. One side is better worked than the other.
11. Fluted core of red jasper.
12. Long flake of dark brown jasper with a well worked platform. From the bulbar surface two large flakes have been removed to make notches. Hence it may be called notched-side- and end-scraper.
13. Side and hollow scraper on a dull grey jasper flake with facettted platforms. One side shows a notch and steep retouch.

Figure U.

14. Double hollow scraper-cum-point on a large flake of variegated dark reddish jasper. After removing two deep flakes to get the notches, steep retouch is done in the hollow. The incipient point emerges between the two hollows.

7. MALIK, S. C., "Palaeolithic Industries of Bombay. A Re-Evaluation". *Journal of the M. S. University of Baroda*, VI, (1957).

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15. Double hollow scraper-cum-point on a greyish dark green jasper. Surface is not worked but there is a steep retouch on one side.
16. Keel-end-side scraper on a thick flake of red jasper. One side is very thin. It is retouched all round but the pointed thin end shows better working.
17. Side-end scraper-cum-point on a yellowish green jasper flake. The point is secured by retouch from both the sides.
18. Side-end scraper on variegated reddish jasper flake. Retouched on all the sides but there is notch on one side and the hollow meets the curved edge on the opposite side.
19. Borer-cum-scraper on a thin light red coloured jasper flake. Steep retouch all along, but at one end both the touched surfaces meet to make a point.
20. Notched double-side scraper on a thick nodule worked on both sides leaving a portion of the cortex. At one end there are two notches which meet to give an incipient point.
21. Side-end-hollow scraper on a thin pinkish white flake retouched all round. There is a notch at one end and this notch meets the retouched surface on the other giving rise to a blunt point.
22. Side scraper-cum-borer dark red purple jasper flake. There is fine retouch on one side and it meets a less worked side making a blunt point.
23. Steep scraper also side-end scraper on a greyish brown flake of jasper with steep retouch on all the sides.
24. Borer-cum-side-end scraper on a mottled pink jasper flake. Retouched on two sides which meet at a blunt point.
25. Side scraper on a dark green-red flake of jasper with a faceted platform, which is narrowed down by retouch. On one side there is some retouch.
26. Side scraper on a dark green red jasper flake with retouch all along the side.
27. Scraper-cum-borer on a bright red flake of jasper with a faceted platform. Finely retouched all along, specially near the platform. At one point an incipient point emerges.
28. Double side-scraper on bluish grey and reddish flake of jasper. Retouched all along but specially fine retouch on the sides.
29. Angle burin-cum-scraper on a bright red flake of jasper with cortex on one side. One thick side is finely retouched and it is opposed by the other side with two burin facets.
30. Angle burin on a thin dark brown flake. The retouched side meets the burin facet.
31. Steep side scraper on a tabular block of chert with cortex on both the flat sides. Sides are steeply retouched to serve as a scraper.

Figure V.

32. Large discoid flake detached from a nodule of variegated dark red blue jasper. The edges show signs of retouch: may be due to use?
33. Another core with a large cortex surface.
34. A thick core of reddish blue jasper with cortex on one side. One end is prepared to serve as a platform and a number of flakes are taken from it.
35. Core of dark greyish brown jasper with flakes taken from only one side.
36. A thick flake core with a prominent bulb. One side of the bulbar surface is worked in the form of an incipient point.
37. A large core of light bluish brown jasper with flakes taken on both the sides. The edges show signs of utilization.

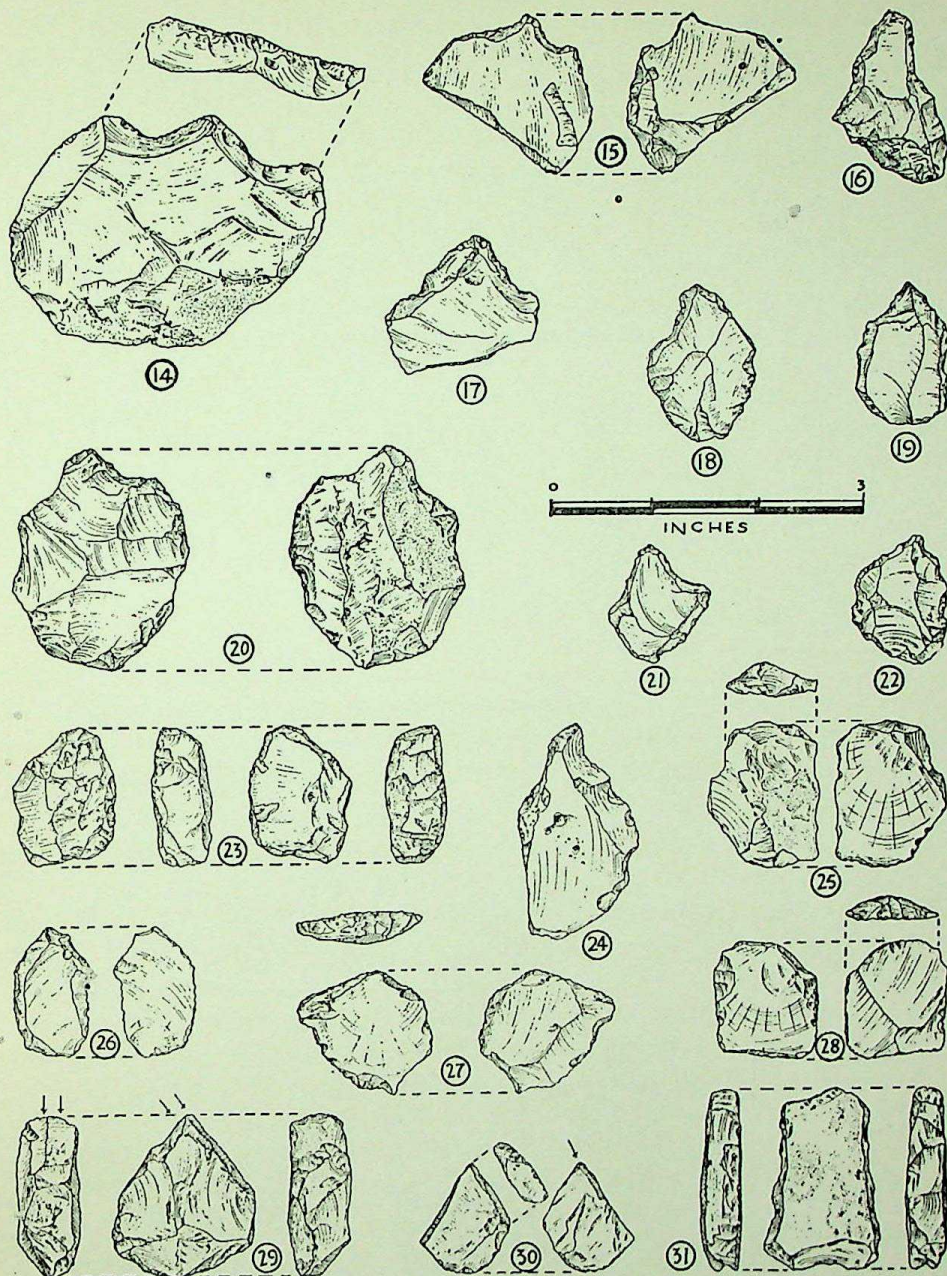


Fig. U
Middle Stone Age tools from the Maheshvar area (See pp. 39-40)

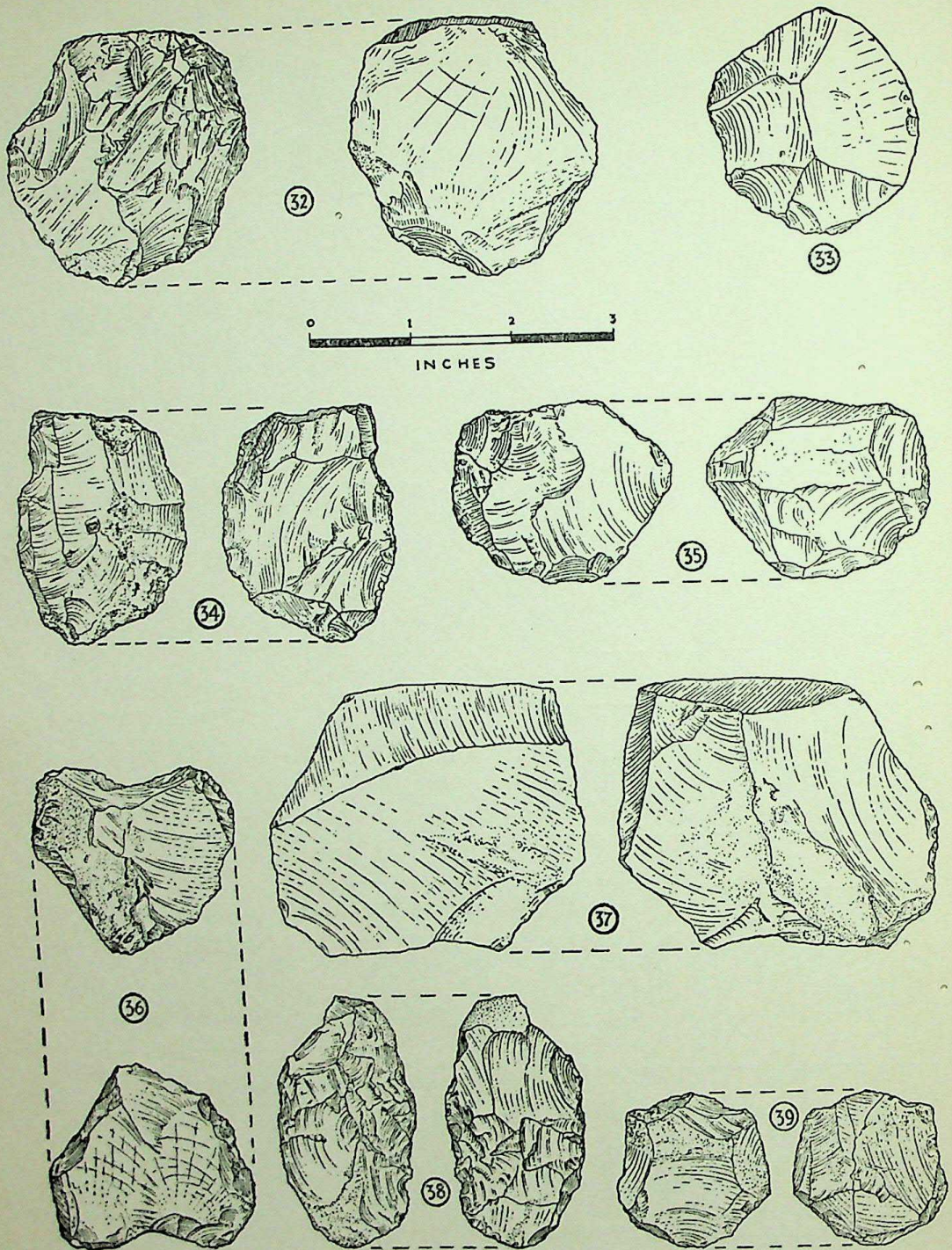


Fig. V
Middle Stone Age cores and tools from the Maheshvar area (See p. 40)

THE BLADE INDUSTRY OF PERIOD III

38. A large semi-cylindrical core worked all round with a number of platforms suggesting the various directions in which flakes were taken.
39. Discoid core of brownish red jasper worked on both the faces.

In conclusion it may be noted that this group represents a total collection of more than 500 specimens. No statistical data was preserved. But the following points emerge:—

1. Distinct use of Levallois technique (small proportion).
2. Mainly the industry is characterized by varieties of scrapers.
3. Existence of angle burins.
4. One of the most characteristic tool is a double hollow scraper with an incipient point. Sometimes the point is very prominent and gives it the character of a borer.

IV

THE BLADE INDUSTRY OF PERIOD III

Introduction

One of the most important elements of the Proto-historic culture is the Blade Industry. As already pointed out the mounds at Navdatoli were comparatively richer and hence most of the material for the description of the characteristics of the industry come from the south bank of Narmada. On the Maheshvar side, only one mound excavated by us, viz. Mound V, yielded microliths, but for the few stray pieces from Trench II (Mandalkho). The blade industry of Maheshvar is very significant on account of the ample material afforded for studying the typological and technological aspects, enabling us to differentiate it from others as well as the opportunity to reconstruct all the stages of manufacture of the tools from the nodule down to the finished product. On account of the distinct character and the predominance of the blade, the term "Blade Industry" has been preferred to the normal "Microlithic Industry".

Distribution

Before describing the distribution of microliths from the various trenches, it is proposed to give the method of analysis, so that the individual tables of each trench can be properly understood. The whole material from each of the layers of different trenches is analysed statistically into the following components: (1) Cores; (2) Irregular flakes, i.e. Asymmetrical

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

shaped flakes; (3) Regular or Symmetrical flakes, i.e. Parallel-sided flakes which could be potentially turned into blades and other tools; and (4) Flakes showing a longitudinal ridge with alternate flaking from both the sides—"Crested ridge". These represent the waste and unused element of the microliths and even some of the flakes showing the evidence of preparation of the core, have been included in the category of crested flakes, as both of them together give evidence of the technique of preparation of the core. Finally, all the finished tools are classified according to the types available in the trench. The "Blade" has been used to designate the three sub-types given below: (1) Normal parallel-sided blade with a blunted back; (2) Blade with a fine serrated edge; and (3) Obliquely blunted points or the "Pen knife". As the statistics bear out, there are very few other types and the most important one among them is the Lunate, blunted along the arc, the balance being either Trapezes with retouch mostly on both the transverse sides and a few scrapers. The finds from each of the trenches are tabulated separately.

Navdatoli—Mound I, Trench I

Of all the excavated mounds even at Navdatoli, Mound I stands unique as far as the microliths go. Even during the surface explorations this feature was noticed and the excavation did not disappoint us. The trench 40 × 20 feet gave in all about 5411 specimens including all the categories stated above. Their distribution in the different layers also brought out the stratigraphic position of the industry and its firm association with the painted pottery. In the first two layers, which belong to the Early-Historic (Period IV) they are comparatively less and probably represent the stray survival and disturbance of the previous deposits. From layers 3 to 8 we have a large number of these specimens.

One fact may be emphasized. The habitation started right on the black cotton soil and in this trench no specimens of the previous prehistoric industry were found. But in layer 8, a large number of specimens show evidence of a slight discolouration (glossy surface) with traces of rolling. The few tools that show this specific physical condition are lunates. Does it show the existence of an earlier phase?¹ But, since this observation could not be corroborated elsewhere we may keep our judgment in reserve, though there is nothing improbable in such a sequence. (See TABLE No. I)

1. At Dongargaon, about 4 miles south of Navdatoli, a few fluted cores and one lunate were found without any association of pottery. Similarly, the writer noticed that the specimens from the lowest levels of Tripuri (Jubbulpore District) show the same condition.

THE BLADE INDUSTRY OF PERIOD III

Navdatoli—Mound I, Trench II

This small trench on the eastern end of Mound I is very important showing that this area was a sort of a "factory site" where tools were being manufactured. A group of about 689 specimens were found at one place and most of them (about 630) were small, irregular, thin flakes. But unfortunately, no evidence of any other anvil or hammer stones was found to confirm the picture of a "factory" or a "chipping platform". This, with the second larger group of about 180, strengthens our general assumption. As the trench was on the slope there were only three layers. The material is given below. (See TABLE No. II).

Navdatoli—Mound II, Trench III

The other two mounds at Navdatoli were comparatively poor in microliths. It may probably be accounted by the depth of overlying Early Historic habitation. There were in all 74 specimens tabulated below in the same fashion. Here their occurrence in layers above 9 is almost insignificant and the real undisturbed proto-historic habitation begins from layer 12, i.e. prior to the flood. Besides, the lower layers were badly disturbed by the porcupine holes etc. and the thinness of this occupation may also be attributed to the succeeding flood. In this trench the most significant feature is the confirmation of the relative distribution of the various types of waste products and tools as in Trench I. (See TABLE No. II).

Navdatoli—Mound III, Trench IV

This is a small mound with two flat benches of different heights, the top one containing the remnants of the Stupa proper. To get at the plan of the structure and know its character, one long trench about 200 × 6 feet was laid right across the longitudinal axis of the mound in an east-west direction. Hence the major portion of the trench was on the slope and the data about microliths from this mound was not taken into consideration. But the position in different sub-squares is given below for information only :—

Sub-Square

A-B	1 Blade
	12 Symmetrical flakes
	2 Crested flakes
	3 Asymmetrical flakes.
D	1 Blade
	1 Side-and-End Scraper
	1 Lunate
	5 Symmetrical flakes

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G	1 Trapeze
.	2 Symmetrical flakes
H	1 Blade
	1 End scraper
	1 Lunate
	12 Asymmetrical flakes
	2 Symmetrical flakes.
I	1 End scraper
	2 Blades
	1 Core
	6 Asymmetrical flakes
	11 Symmetrical flakes.
J	2 Symmetrical flakes
	1 Asymmetrical flake
	1 Core
K	1 Lunate
	1 Blade
	2 Cores
	13 Symmetrical flakes
	4 Asymmetrical flakes
L	1 Lunate
	1 Trapezo
	5 Blades
	2 Asymmetrical flakes
	14 Symmetrical flakes
M	1 Blade
	2 Cores
	28 Symmetrical flakes
	4 Asymmetrical flakes
N	2 Cores
	1 Blade
	8 Symmetrical flakes
O	2 Symmetrical flakes.
T	3 Trapezes
	1 Symmetrical flake

Navdatoli—Mound III, Trench V

Only on the northern slope of the mound, a good thickness of deposit of the proto-historic period has been well preserved. The limited area, about 20 × 8 feet gave about 218 specimens of the different categories tabulated below. Even this trench tends to support the general picture from all the trenches. (See TABLE No. III)

Maheshvar—Mound V, Trench III

The mound is very badly eroded and a small area on top is held intact by a medieval structure along its outer perimeter. There is another

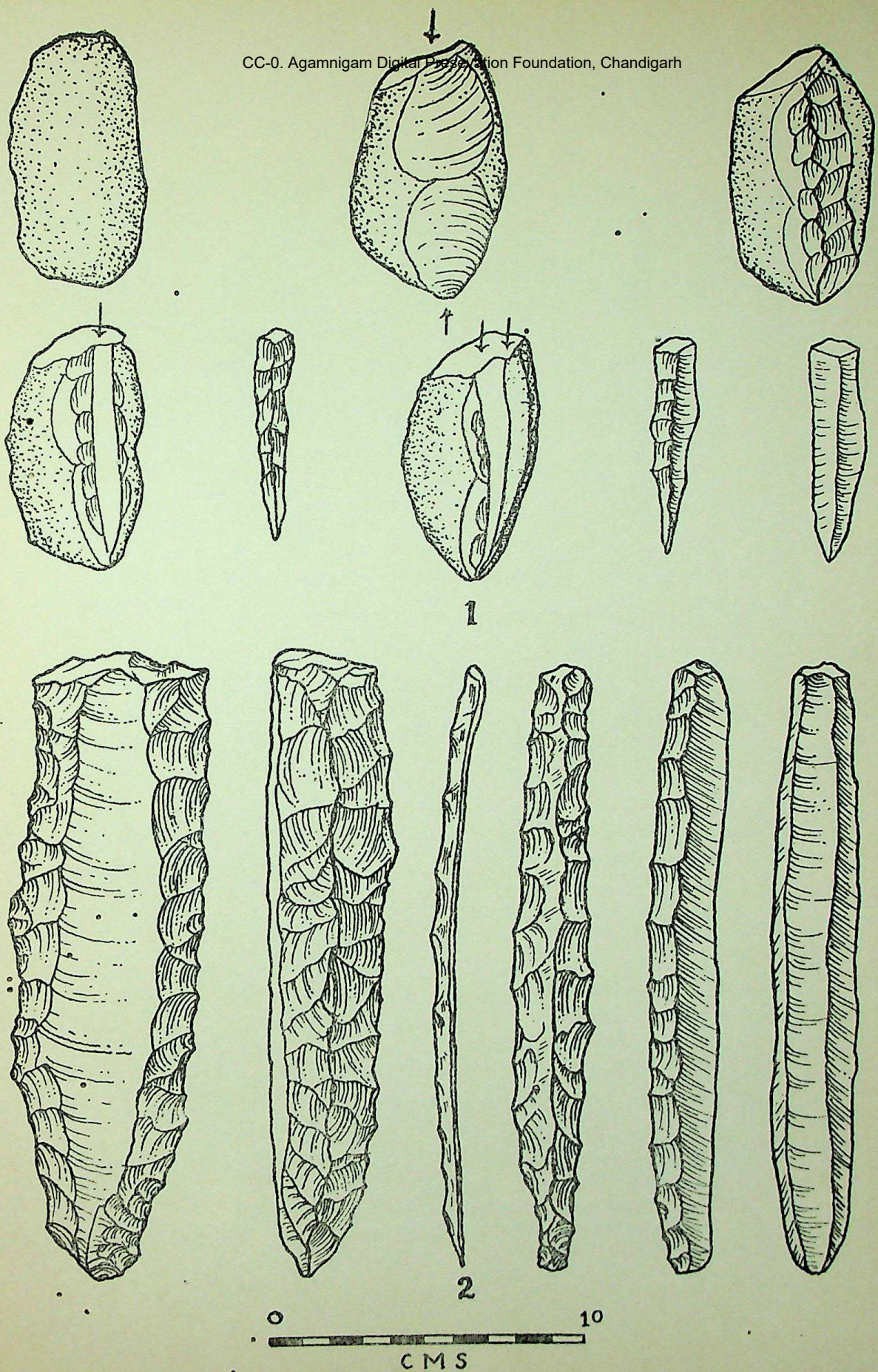


Fig. AA.

(1) Different Stages of manufacture after CHEYNIER and BARNES. (2) Core and its by-products from Le Grand Pressigny (See p. 45)

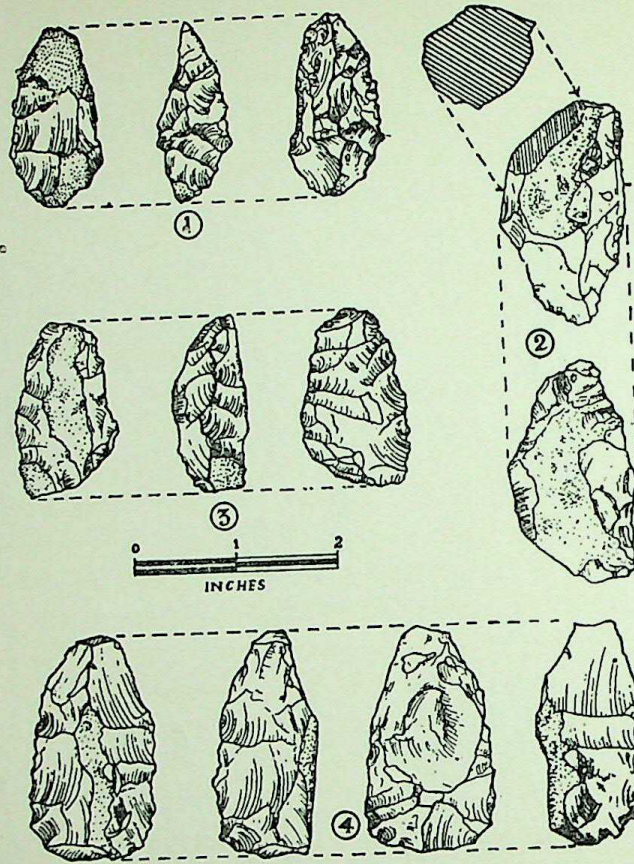


Fig. BB

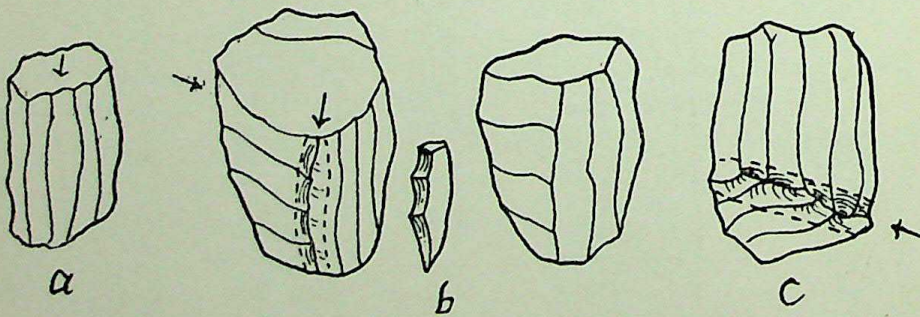


Fig. DD.

Fig. BB. Nodules in the first stage of manufacture. (See p. 46)

Fig. DD. Idealized diagram showing the effect of flaking on a core. (See p. 47)

THE BLADE INDUSTRY OF PERIOD III

plain portion just below, connected by a sloping corridor. The trench was laid along this corridor and parts on the plain portion at either end were subjected to deep digging. The excavation fortunately yielded us sufficient evidence of overlapping in both the ends of the trench. As the area was also quite close the actual soil layers were correlated. Hence in the following table, the material from both the trenches has been treated together and presented according to the correlated layers. As the table would show, the general result of evidence from both the areas on either side of Narmada tends to be similar. (See TABLE No. V).

Method of Study

The whole material from the various trenches was first classified into cores, irregular or asymmetrical flakes, regular or parallel-sided flakes, flakes with longitudinal ridges showing signs of alternate flaking, called "Crested ridges" and finished tools, showing definite evidence of secondary retouch. Advantage was taken of the large number of waste products and abandoned nodules and cores to study the entire technique of manufacture in all the stages. A few selected cores from the surface were also utilized to elaborate certain details noticed on the excavated specimens.

Technique

The most important feature of this industry was the existence of a large number of cores with extensive and shallow ripple-flaking with overlapping scars and the number of flakes with longitudinal crests. BARNES,² has given us a brilliant survey of the methods of blade production, an industrial tradition that emerges in the Upper Palaeolithic and dominates the Mesolithic and Neolithic and even the later periods. In association with A. CHEYNIER,³ he described another technique, viz. the technique of crested guiding ridges, which seems to be the one employed at Maheshvar. This technique has been very well explained in an idealised diagram (Fig. No. AA) by them. It is remarkable that this technique, usually employed for the mass production of large blade flakes, should have been used even in the case of comparatively smaller nodules, available in Central India and the Deccan.^{3a} As the following account will show, the elaborate

2. BARNES, A. S. "The technique of Blade production in Mesolithic and Neolithic times", *Proceedings of the Prehistoric Society*, XIII, 1947.

3. CHEYNIER, A. and BARNES, A. S. "Les Lames a Section Triangulaire et les Peces a crete", *Congress Prehistorique de France, Douzieme session*, 1936, pp. 630-37.

3a. SANKALIA, H. D., and DEO, S. B. "Excavations at Nasik and Jorwe," Poona 1955, pp. 150. ff.

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preparation of the core and the ridge is so striking that it confirms the existence of an industrial tradition to which it belongs. Fortunately, the abundant evidence of its distribution in India and the application of this technique in areas, where raw material occurs in large nodules of chert and flint—as at Sukkur and Rohri (in Pakistan), and Raichur (Hyderabad, Deccan) and the neighbouring areas, helps us to account for its use in India. Besides, the most significant feature is the association of this industry (so far as we know), only with the Chalcolithic Cultures beginning with the Indus Valley civilization.

Dressing the nodule

A large number of cores showed extensive ripple-flaking on the surfaces, not used for removing blades. Besides, a number of semi-cylindrical and irregular cores had natural faults and were abandoned. Hence the first stage may be described as the dressing of the nodule by carefully removing the outer cortex, leaving the core as intact as possible, since the size of the nodule is very small.⁴ Actually, some of the abandoned nodules show the remnants of cortex.

Figure BB.

No. 1 shows an irregular worked nodule with a semi-triangular section. The lower face shows the cortex and the shallow flaking. There is no convenient striking platform. On account of its faulty structure, it seems to have been abandoned. Nos. 2 and 3 are nodules of agate with the cortex entirely removed on one face by shallow pressure flaking. The other face retains cortex. No. 4 is a nodule of chert, which is generally rare in this assemblage.

Preparation of the ridge

This stage, which is essentially a continuation of the first, results in a fine ridge with alternate flaking. This is achieved by removing a series of flakes along the longitudinal axis, but at right angles to its face along one edge. From the negative scars of these flakes, another series of flakes is

4. This process involves fine pressure flaking and sometimes is very similar to that on the Egyptian and Danish flint tools. But it is not employed on the tools. It can be compared with what the writer noticed at a modern bead workshop in Cambay on the West Coast of India. But there is one essential difference in the chipping process. The nodule is held at the pointed tip of an iron bar fixed obliquely in the ground. While the pressure is exerted from the other—free end of the nodule with a light hammer of wood or horn, the flake comes off at the point where the iron tip of the anvil impinges on the stone. The main object of this process is to remove the cortex and to get the required shape. Depending on the angle at which the nodule makes with the anvil tip, the flake is narrow and elongated, or short and rounded. On account of the sharpness and strength of the tip, these invariably show deep bulbs.

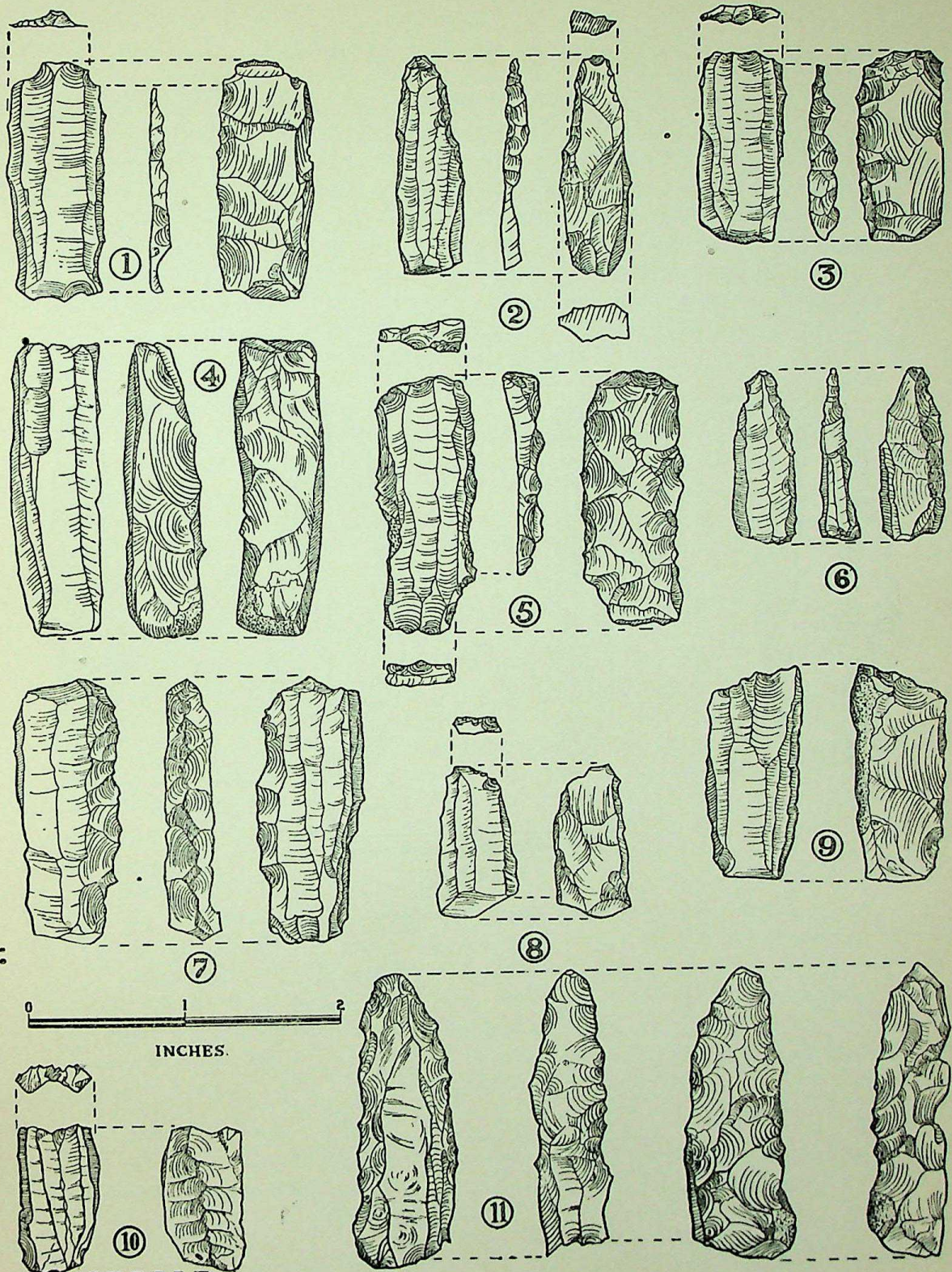


Fig. CC. Cores in stages II and III. (See pp. 47 and 51)

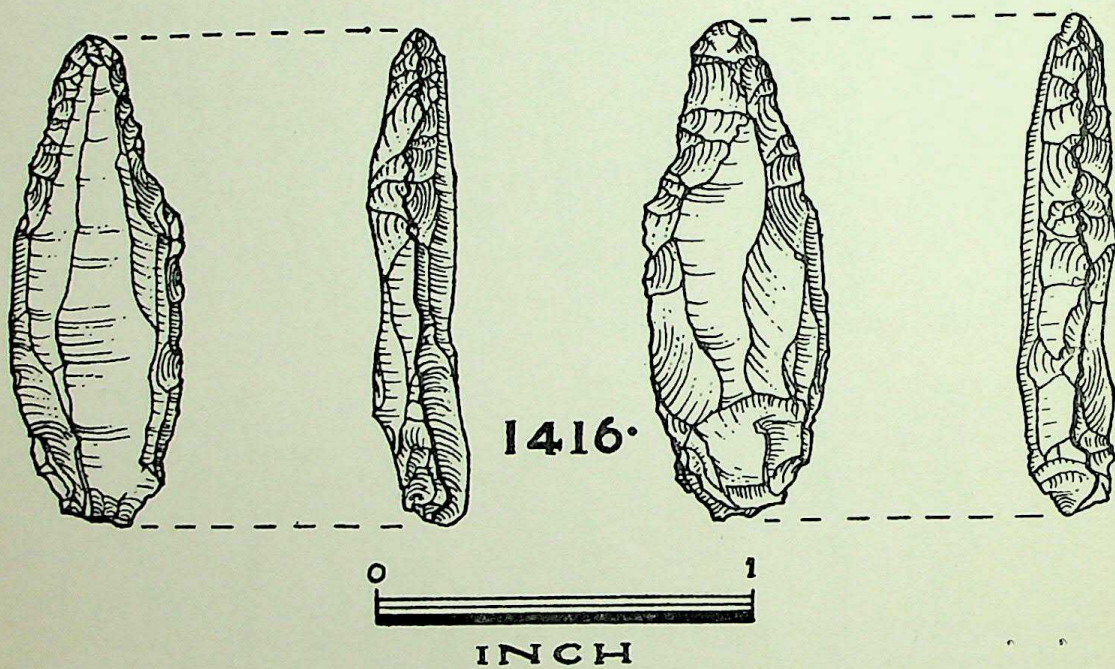


Fig. FF. Borer on a core (See p. 51.)

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taken on the opposite side. This has the effect of truncating the earlier flake scars and giving a crest with a zigzag edge. Hence, particularly in the cuboid nodules, crests appear at the corners. But in some cases, it was noticed that there was a crested ridge running along the centre of the face. The finest example of a core with two ridges in the corner is illustrated in Fig. CC, No. 11. In this specimen, full of structural hollows, only three long flakes were taken and then it was abandoned. All the three other sides show fine pressure flaking. A core with a central crest is illustrated in Fig. CC, No. 10. In the excavation, about 115 flakes with such crests were found suggesting the employment of this technique.

Are they rejuvenating flakes ?

These crested flakes with triangular sections have been described by various authors as *lames de degagement* (detaching flake). A close look at the specimens immediately shows definite evidence of truncation of one series of flake scars. There is no doubt either about their being made on the core before the removal of the flake from it. A very careful study of the flakes shows that they cannot be mere rejuvenating flakes from normal blade cores. On a normal core with a single platform, one can see fluting of parallel ridges as in Fig. DD-a. The resulting flake scars always show ridges parallel to the main axis. But, if the platform is changed to another face, perpendicular to the original one, the second stage of flaking from the new platform results in one series of scars running at right angles to the other, as in Fig. DD-b. Its product will be a flake with one longitudinal ridge parallel to the main axis on one half of the face and a series of truncated remnants of the previous flake scars taken from the first platform on the other half. But on a roughly cubical or cuboid core, if the original platform of the first series were used for removing the fresh series from the negatives of the first series, an edge with a crest can again arise, as in Fig. DD-c. The type of crested flakes, discovered at Maheshvar would result from the removal of such an edge to begin the third series of flakes from a new platform. This presupposes the existence of very large nodules to stand the removal of three series of blade flakes from the core. But the evidence at Maheshvar is against such an assumption, since the size of the natural nodules of agate and chalcedony from the trap rock is very small. However, the stages I and II described above can directly give rise to a simple crested ridge.

Function of the ridge

On the other hand, this ridge seems to serve a definite function. Its primary function may be stated to be to control the length of the flakes,

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specially, when one needs very long flakes, and that too in areas, where larger size nodules are available. The classic site, where the flakes and the cores assume giant sizes is Le Grand Pressigny in the Department of Indre-et-Loire in France. Here the preparation of huge cores from the nice honey-coloured flint and their symmetrical shapes have earned for them the name "pounds of butter" (*livers de beurre*). Sir John EVANS gives a fine description of the technique. (Fig. AA. No. 2).

"...it will be seen that the chipping into such a form is in fact, one of the necessities for the case of production of long blades of flint..... But where a flake 10 to 12 inches in length is required, a different process becomes necessary. For it is nearly impossible with a rough mass of flint, to produce by single blows, plane surfaces 10 to 12 inches in length, and arranged at such an angle as to produce a straight ridge, such as to form a backbone, as it were, of a long flake; and without such a backbone, the production of such a long flake is impossible. It is indeed this ridge that regulates the course of the fissure by which the flake is dislodged from the matrix or parent flint; there being a slight degree of elasticity in the stone, which enables a fissure, once properly commenced in a homogeneous flint to proceed at right angles to the line of least resistance in the dislodged flake, while at the same time exerting a nearly uniform strain, so that the inner surface of the flake becomes nearly parallel to the outer ridge."⁵

Similarly, the technique of the industry at Melos in the Aegean, is described by BOSANQUET,⁶ while explaining the flakes with crested ridges :

"It comes from a block which was roughed out by striking a succession of flakes from two adjoining sides, the pressure which dislodged them from one side having been applied midway from the other; in this way the angle acquired the form of a zigzag ridge; in the next stage, the flakes were removed from the longer axis of the core and at right angles to those removed in the trimming process (which has been struck off along the longer axis) and one of the first to be removed will be longer flake."

In simple words, we may say that the removal of two series of flakes from the either side of a pre-determined line along the length of the core, creates a series of weaknesses parallel to this ridge. Hence the length of the flake depends on the extent of cross flaking along the core. BRICE and DONMEZ have suggested that these crested ridges "guide the run of the first blade removed" and have suggested the use of the term "crested guiding ridges" for such flakes, recalling the French term "detaching flake". Frank WILLETT⁸ has also described some specimens from Greece with the same

5. EVANS, Sir John, *The Ancient Stone Implements, Weapons and Ornaments of Great Britain*, II Ed. London, 1897, pp. 27-28.

6. BOSANQUET, R. C. *Excavations at Phylakoppi at Melos*, British School at Athens, Supplementary Paper No. 4, London, 1904, p. 219.

7. BRICE and DONMEZ, "A flint blade workshop near Gaziantep, South Turkey", *Man*, June, 1951, No. 125.

8. WILLET, Frank, "Some blade implements from Greece", *Man*, 1953, No. 49.

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features. At Maheshvar, the average length of the cores is about 1.5 to 2 inches, but at Sukkur on the Indus in Pakistan, we have cores going upto 6 to 8 inches (See Pl. XIb) and we have actual crested flakes varying in length from 2 to 5 inches in the British Museum.⁹ Hence the adoption of this technique at Maheshvar may be attributed either to the strong industrial tradition which managed to spread, or may be explained as a device to make the longest possible blades out of the bad, small nodules available locally.

A second function has been suggested for this ridge by BRICE and DONMEZ.

"Our experiments at flaking have taught us that one of the chief difficulties of this technique is to hold the core firm, specially as it becomes smaller. So we would suggest that this keel was prepared to wedge into a slot or groove in the anvil to keep the core steady.¹⁰

Probably, this may account for the survival of crests on a few cores but it depends more on the position of the crest on the core.

The last two stages may be described as the actual removal of the blade flakes and the secondary retouch. As will be shown further, the number of completely retouched blades is small. But, since long parallel flakes have been deliberately produced, they can straight away serve their function as cutting tools or any other use to which they may be put.

Typology of the Industry

The above description of this highly specialized blade industry would automatically suggest the dominance of the blade at the expense of the other types. Actually, it is a very common phenomenon that the evolution of a technique of mass production invariably leads to a deterioration of the earlier industry, owing to the standardization of tool types. Secondly, the appearance of this technique at the transitional stages between the Neolithic and Bronze age, as will be shown further, is very significant, as the blade alone of the earlier series of stone tools has a greater utility with the emergence of metal tools. It also accentuates the process of abandonment of minuate retouch. The tables at the end will clearly bear out this phenomenon, for this industry of Central India.

9. SMITH, Reginald, A. *The Sturge Collection—An illustrated selection of foreign stone implements bequeathed in 1919 by William Allar Sturge*, British Museum, London, 1937.

10. BRICE and DONMEZ, *op. cit.*

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Blades (Fig. EE, Pl. X).

The most predominant tool of this industry is the blade, varying in length from 1.75 to 0.50 inch, made out of long parallel-sided flakes. Though the tables treat the blades together, they can be sub-divided into three types :—

- (1) Serrated blade.
- (2) Blades with the blunted back.
- (3) Obliquely blunted points or pen-knife blades.

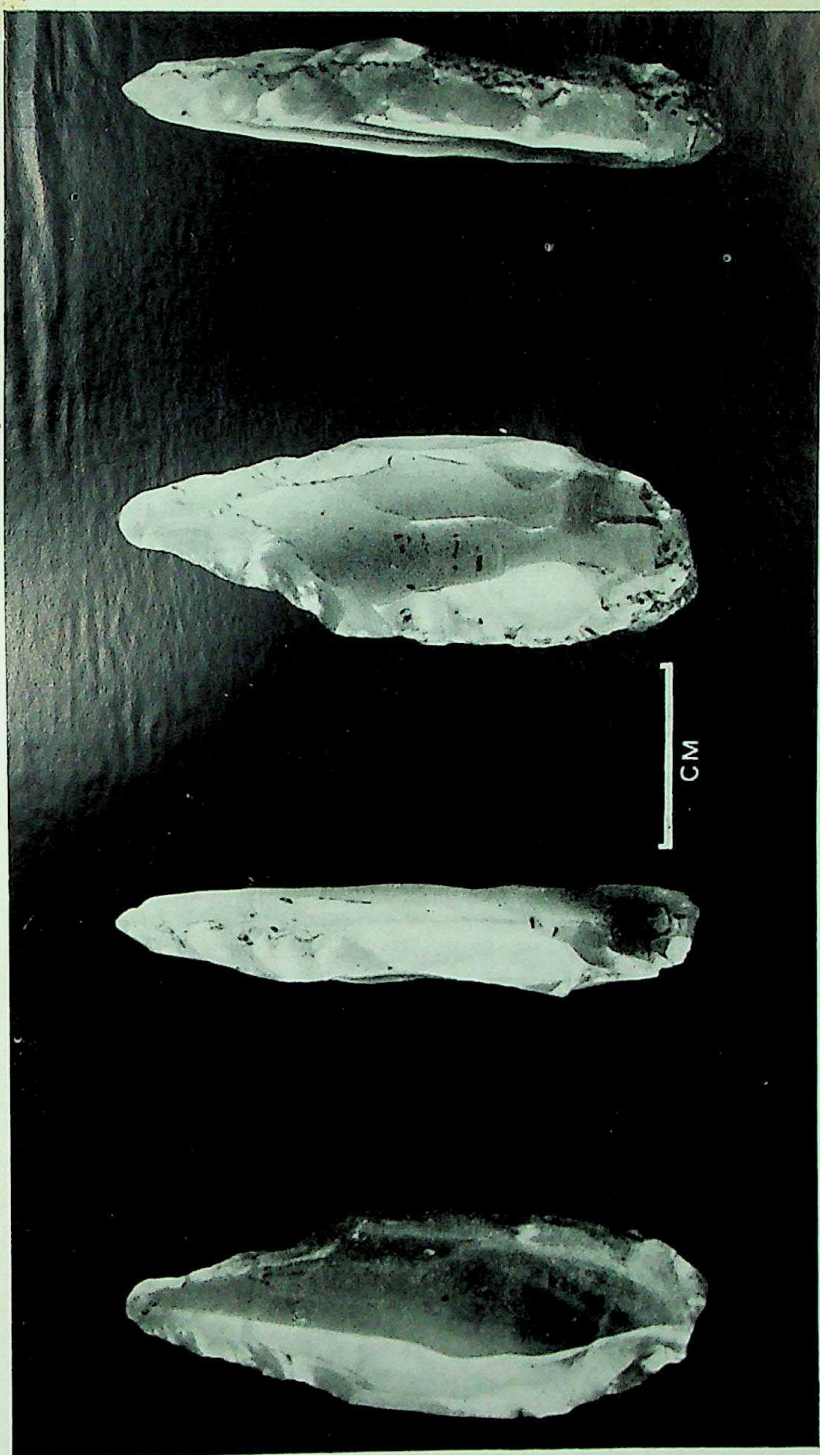
(1) Probably for the first time in India, very characteristic, serrated blades with distinct dentition, were found at Maheshwar. No. 1 (Fig. EE) is the most remarkable specimen, found on the surface. One edge is serrated by taking small deep flakes, which can be clearly seen. A good number of specimens from the excavation show this distinctly, but there are a few pieces, where the dentition is not very clear. (Nos. 2, 3 and 4, Fig. EE).

(2) The second type, which is the normal type of blade in other industries, is comparatively rare in this assemblage. Its back is blunted by steep retouch. (Nos. 5, 6 and 7, Fig. EE).

(3) By far, numerically, the largest type may be described as an obliquely blunted point. The simplest and the most common form is achieved by an oblique retouch at one end, giving rise to a tool in the shape of a pen-knife. Its function may be stated to be a point, but most of them show definite evidence of use along the edge. Hence this has been included in the category of blades. (Nos. 8, 9, 10, 11 and 12, Fig. EE).

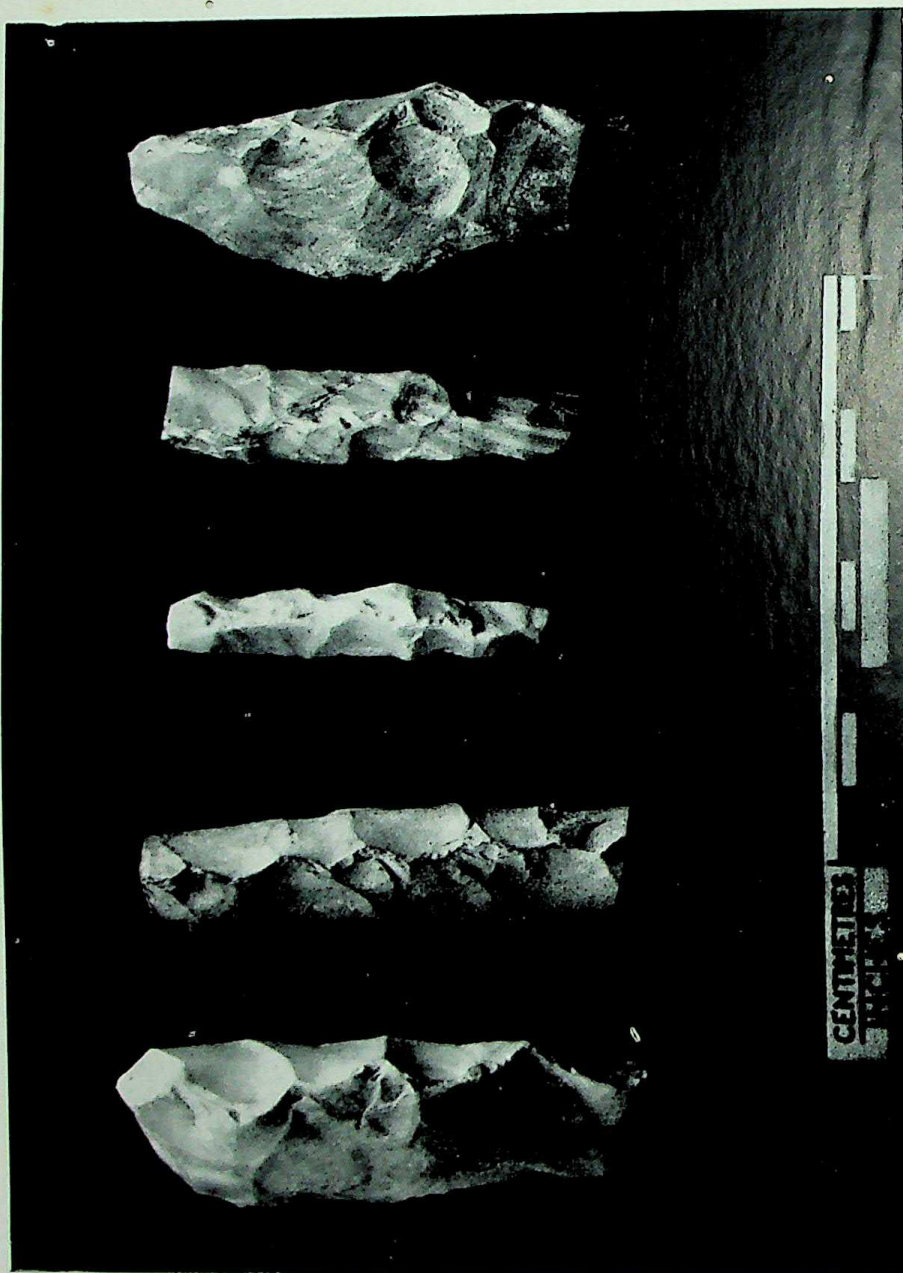
Lunates

After the blades, the next important tool is the lunate. Their number is very small, in relation to the total, as the table will show. All of them are blunted by steep retouch along the arc. This is generally done from one face only. The specimens vary in length between an inch to half an inch. (Nos. 16, 17, 18 and 23, Fig. EE). Two specimens of the other type of lunate, with its chord blunted were found. There are a few trapezes with retouch on the transverse sides, but they sometimes imperceptibly tend towards lunates. Hence, they have not been kept in a separate category. (Nos. 13, 14 and 15, Fig. EE).



Borer on an exhausted core (5/2) (See p. 51)

PLATE XIa



Crested flakes from Jericho, Palestine (See p. 61)

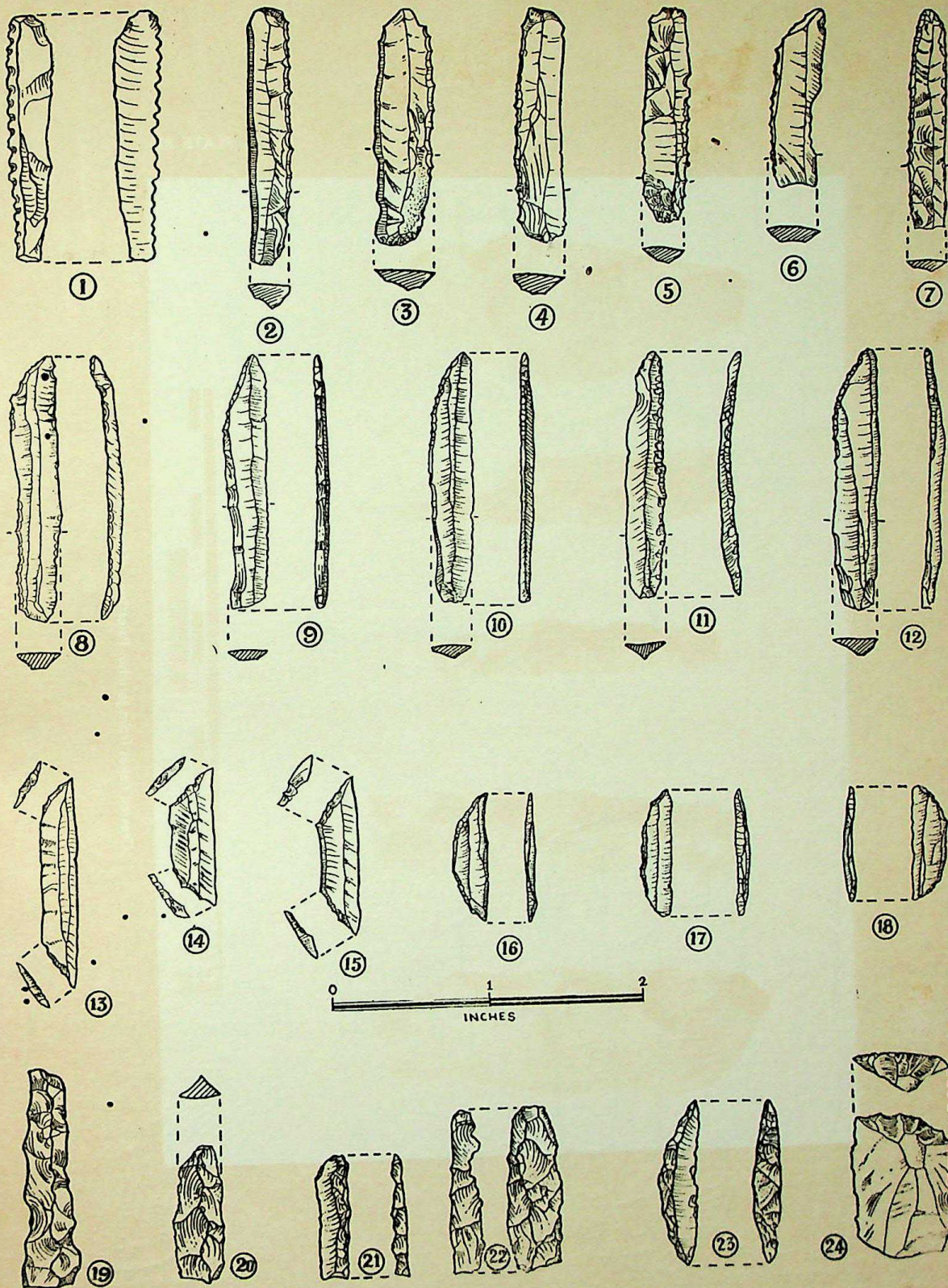


Fig. EE.

Finished tools and flakes from Maheshwar and Navdatoli, (See p. 50)

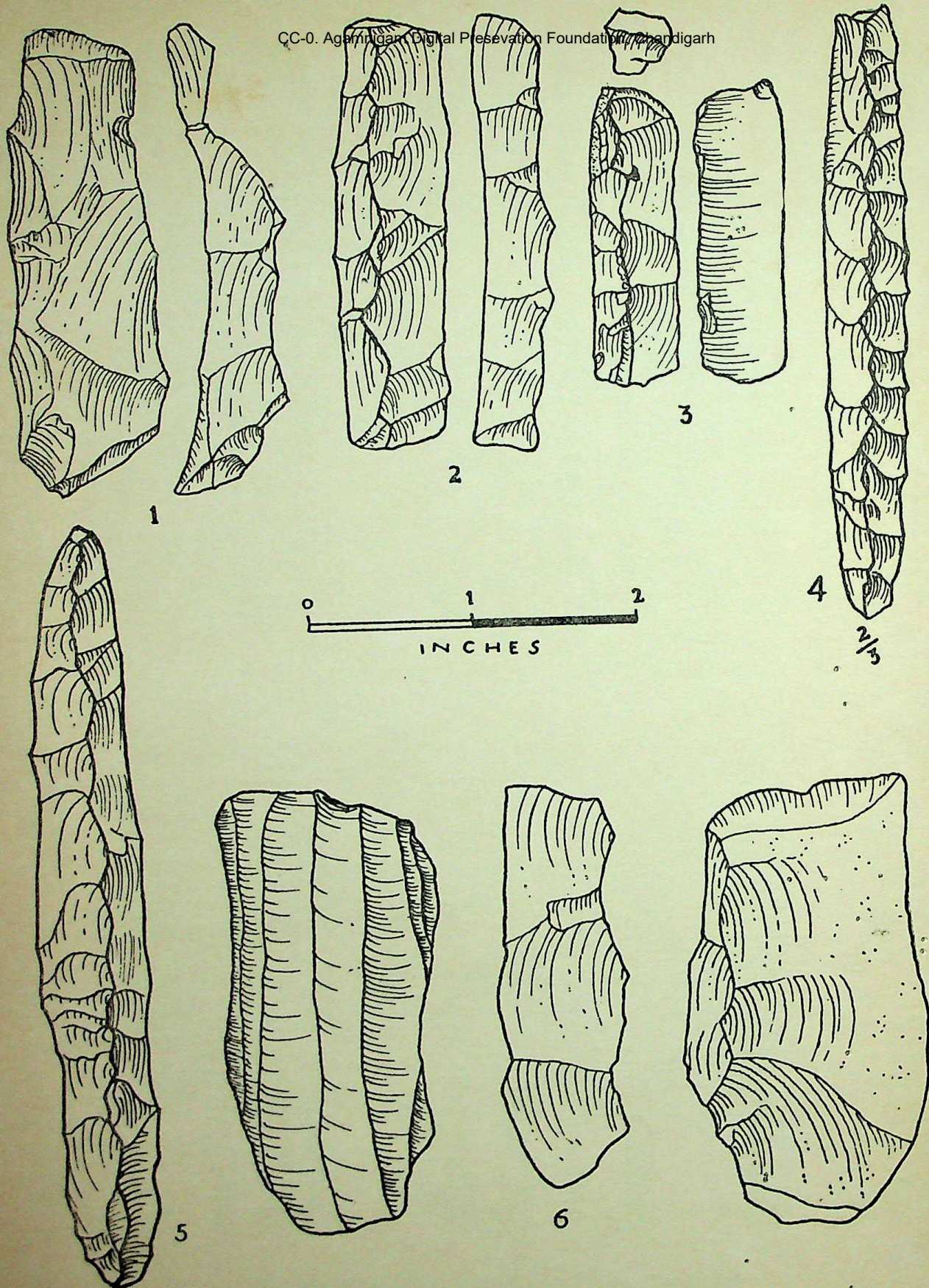
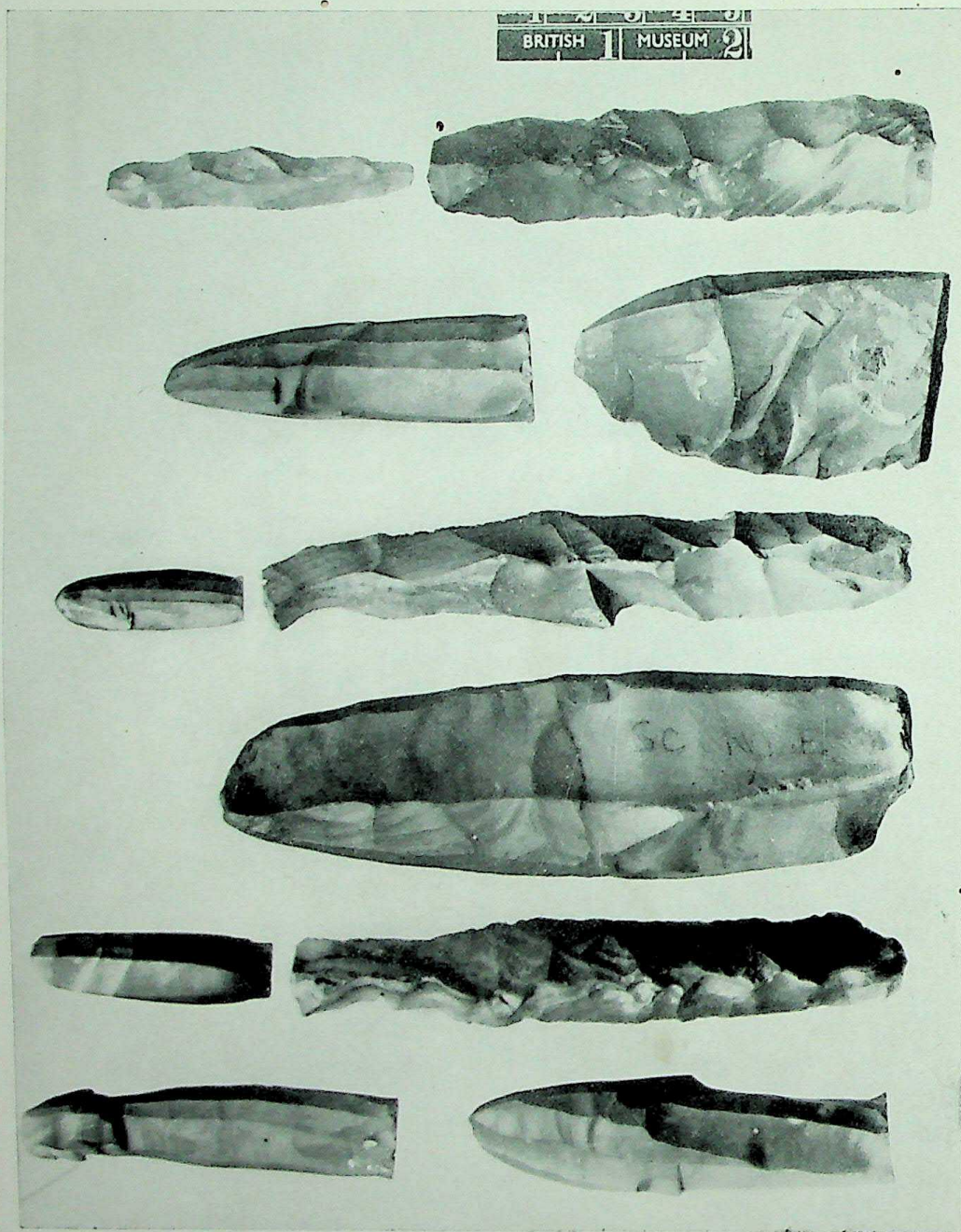


Fig. GG.

Crested flakes from W. Asia. Jericho (1-2); Duluk and Sakcegozu, Turkey (3, 4), Jerash, Jordan Valley (5), Makertu, Iraq (6). (See p. 61)



• Cores and waste flakes from Sukkur and Rohri. (See p. 62)

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Scrapers

This is the rarest type in this assemblage. Only 10 specimens have been found, and all of them belong to the "end" scraper group with the retouched working at right angles to the main axis of the flake. About three of them show evidence of working on the side and hence they may be described "side" and "end" scrapers. (No. 24, Fig. EE).

Core tools

The most interesting evidence about the use of wasted or exhausted cores occurs at Maheshvar. This is provided by fine pointed tools made from flat cores. (Nos. 2 and 4, Fig. CC). Both the specimens are made of flat cores. At one end a point is attained by oblique retouch from both the ends. Particularly the specimen (No. 1416, Fig. FF, Pl. XI) is very interesting as the oblique edge itself is very sharp and the retouching is done from both the sides. Is it an untanged arrowhead or a borer? The third specimen is somewhat roundish and retains its crested ridge (No. 6, Fig. CC). At one end, a point is achieved by retouch, to make probably, a borer.

The other type of tool is somewhat doubtful, but the specimen cannot be explained in any other way except by taking it as a tool. The specimen No. 1 (Fig. CC) shows regular fluting on one side. The platform end of the core, (taking the negative bulbs of percussion as the criterion for fixing it), is less than one-eighth of an inch in the centre, but has a sharp straight edge. Such a narrow platform would not have enabled the makers to take such long flakes as the front face of the core shows. From the back one notices a deliberate flattening by removing a series of shallow flakes and the sharp edge shows a 'Tranchet type' flaking. Hence it seems to have been deliberately made to get a sharp scraping edge. No. 8 (Pl. CC) shows a similar edge more or less with a very fine retouch at the scraping end. Similarly on No. 9 (Pl. CC), the bulbar end (or the platform end) is sharpened.

Thus an analysis of the tool types brings about the dominance of the Blade in this industry. If we take the definitely retouched specimens into consideration we get the following interesting data trenchwise:—

- Trench I — 73.9% of the total tools NVT.
- Trench III — 70.6% of the total tools NVT.
- Trench V — 70.6% of the total tools MHSR.

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An abstract of the tools is given below from all the trenches.

Trench			Blades	Lunates	Trapezes	Scrapers
NVT	I	.. ..	147	45	4	3
NVT	II	.. ..	4	3	5	—
NVT	III	.. ..	8	3	—	—
NVT	IV	.. ..	9	4	3	3
NVT	V	.. ..	24	5	2	1
MHSR	V	.. ..	12	3	—	2
Total ..			204	63	14	.9
Percentages of the total tools.			70.34	21.72	4.83	3.10
Percentage of the total including waste products and cores			2.70	0.86	0.19	0.01

Before we proceed to discuss the affinities of this technique, the chief features of the Maheshwar industry may be summarised as follows :—

1. The basic raw material consists of nodules of agate and chalcedony from the Trap formation, and found abundantly in the bed of the river.
2. As the chief objective of the tool maker was to turn out as many blades as possible, a specialized technique was employed.
3. The following stages of production may be recognized :—
 - (a) Dressing the nodules.
 - (b) Preparation of the guiding ridge.
 - (c) Removal of blades.
 - (d) Secondary retouch for finishing the process.

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TABLE I
NAVDATOLI—MOUND I, TRENCH—I
ABSTRACT OF MICROLITHS

Layer	Core	Asymmetrical flakes	Crested and Worked flakes	Parallel sided flakes (Symmetrical)	Blades	Lunates	Trapezes	Scrapers	Total
1	4	11	—	19	3	—	—	—	37
2	5	25	9	144	20	2	—	—	205
3	13	135	23	542	52	13	—	—	778
4	13	256	13	646	22	2	1	—	953
5	14	460	18	451	18	1	2	—	964
6	32	706	5	244	9	—	1	—	997
7	10	1154	5	140	19	25	—	3	1356
8	—	104	—	10	4	1	—	—	119
9	—	—	—	1	—	1	—	—	2
Total	91	2851	73	2197	147	45	4	3	5411
Percentage	1.7	52.7	1.3	40.6		3.7			

Percentage of *Blades* to the total of finished tools73.9

Percentage of *Lunates* to the total of finished tools22.7

Percentage of *Trapezes* to the total of finished tools 2.0

Percentage of *Scrapers* to the total of finished tools 1.5

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TABLE II
NAVDATOLI—MOUND I, TRENCH—2
ABSTRACT OF MICROLITHS

Layer	Core	Asymmetrical flakes	Crested and Worked flakes	Parallel sided flakes (Symmetrical)	Blades	Lunates	Trapezes	Scrapers	TOTAL
1	1	55	—	17	—	—	1	—	74
2	12	647	5	45	—	—	1	—	770
3	4 (One turned into border)	395	7	44	3	3	3	—	460
4	—	22	1	7	1	—	—	—	31
TOTAL	18	1119	13	113	4	3	5	—	1335
Percentage	1.3	83.8	0.9	8.4		0.85			

Percentage of *Blades* to the total number of finished tools33.3

Percentage of *Lunates* to the total number of finished tools25.0

Percentage of *Trapezes* to the total number of finished tools.....41.7

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TABLE III
NAVDATOLI—MOUND II, TRENCH—3
ABSTRACT OF MICROLITHS

Layer	Core	Asymmetrical flakes	Crested and Worked flakes	Parallel sided flakes (Symmetrical)	Blades	Lunates	Trapezes	Scrapers	TOTAL
1	1	—	1	2	1	1	—	—	6
2	—	—	—	3	—	—	—	—	3
6	—	—	—	1	—	—	—	—	1
9	—	—	—	—	1	—	—	—	1
10	—	—	1	3	—	—	—	—	4
11	—	—	—	1	—	1	—	—	2
12	—	2	1	15	2	1	—	—	21
13	1	3	1	10	2	—	—	—	17
14	—	3	3	5	2	—	—	—	13
15	—	—	—	6	—	—	—	—	6
TOTAL	2	8	7	46	8	3	—	—	74
Percentage	2.7	10.8	9.5	62.2	14.9				

Percentage of *Blades* to the total of finished tools72.7

Percentage of *Lunates* to the total of finished tools27.3

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

TABLE IV
NAVDATODI—MOUND III, TRENCH—5

ABSTRACT OF MICROLITHS

Layer	Core	Asymmetrical flakes	Crusted and Worked flakes	Parallel sided flakes (Symmetrical)	Blades	Lunates	Trapezes	Scrapers	TOTAL
2	1	1	4	12	2	—	—	—	20
3	1	5	—	9	4	1	—	1	21
4	3	2	1	15	4	1	—	—	26
5	2	7	3	21	3	1	1	—	38
6	—	14	6	40	7	1	1	—	69
7	5	14	—	19	4	1	—	—	43
8	—	1	—	—	—	—	—	—	1
TOTAL	12	44	14	116	24	5	2	1	218
Percentage	5.50	20.18	6.42	53.21			14.68		

Percentage of *Blades* to the total of finished tools75.00

Percentage of *Lunates* to the total of finished tools15.63

Percentage of *Trapezes* to the total of finished tools 6.25

Percentage of *Scrapers* to the total of finished tools 3.13

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TABLE V
MAHESHWAR V

ABSTRACT OF MICROLITHS

Layer	Core	Asymmetrical flakes	Crested flakes	Parallel sided flakes (symmetrical)	Blades	Lunates	Trapezes	Scrapers	TOTAL
3	—	1	—	—	—	—	—	—	1
4	—	—	—	—	—	—	—	—	—
5	—	1	—	2	1	—	—	—	4
6	—	—	—	—	1	—	—	—	1
7	2	1	—	—	—	—	—	—	3
8	—	—	—	1	—	—	—	1	2
9	—	—	—	—	—	—	—	—	—
10	1	5	1	10	1	—	—	—	18
11	2	11	1	11	3	—	—	—	28
12	3	47	4	21	6	3	—	1	85
TOTAL	8	66	6	45	12	3	—	2	142
Percentage	5.7	46.5	4.2	31.7			11.9		

Percentage of *Blades* to the total of finished tools70.6Percentage of *Lunates* to the total of finished tools17.6Percentage of *Scrapers* to the total of finished tools11.8

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

APPENDIX

A Note on the History and Distribution of the Technique

It is indeed strange that the identification of this technique at Le Grand Pressigny was not followed up by careful analysis from other sites in Western Asia and Europe. No systematic effort was made though BOSANQUET,¹ CHEYNIER and BARNES² described this technique, until DONMETZ and BRICE³ carried out the experiments and explained the technique. The writer's study of this technique started with the small note of Frank WILLETT,⁴ describing some specimens from the Finlay collection in the Manchester Museum. Hence a thorough study of the Maheshwar collection was made, before his visit to England in 1954. The following note is based on a study of the materials and literature available mostly in the London University Institute of Archaeology and the British Museum. Hence, with this limitation, it is proposed to discuss the history of this technique. The greatest handicap is the relative neglect of flint and obsidian implements in the hands of most of the archaeologists working in Western Asia. Hence this problem requires a much greater attention. This account is mainly intended to focus the attention of the scholars and seek further information. At the same time a provisional hypothesis on the origin of the technique is put forward on the basis of data presented herewith.

This technique is essentially intended to mass produce blades and it invariably results in a deterioration in variety and quality of flint and other stone tools. The greatest difficulty, confronted in the course of these comparative studies, was to find a sure means of identifying this technique. The problem is very much complicated by the existence of what one may call "factory sites" near the sources of raw materials, and the export of flakes or blades to other sites. For example, it is well known that the great flint factories of Le Grand Pressigny were exporting blades to different parts of Western Europe. "The most prolific of all European flint factories, those of Grand Pressigny.....were devoted mainly to the production of long blades and various types of artifacts made from these.....but the first signs of large scale industry supplying more or less

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1. BOSANQUET, *op. cit.*
 2. CHEYNIER and BARNES, *op. cit.*
 3. DONMETZ and BRICE, *op. cit.*
 4. WILLETT, *op. cit.*

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extensive market did not appear until much later and in fact, the activity did not reach its zenith until the end of the Neolithic times.....It is particularly significant, that the great flint and stone axe manufactories languished, but the Grand Pressigny workshops, concentrating on such forms as daggers and knives, continued to flourish well into the Bronze Age.⁵ There are nearly 60 sites in the valley of Indre just around Grand Pressigny.

Similarly in the Aegean, we have an identical situation. The small island of Melos seems to be the chief source of obsidian for the whole Aegean region. Here again, we see the remarkable phenomenon of obsidian from Melos being exported to different islands and Greece. BOSANQUET describes a factory belonging to the pre-Mycenian period, lying below the wall of Early Mycenian Period at Phylakoppi.⁶ "Melos, being the principal, if not the only source from which this useful substance (obsidian) could be obtained by the people of Aegean, seems from very early days to have commercial relations not only with the neighbouring islands and the Greek mainland but also with the coast of Asia Minor and even with Egypt."

Another such prolific factory area, where we have definite evidence of cores as well as flakes, is near Gaziantep in South Turkey (Duluk near Dolische, 12 miles NNW of Gaziantep) described by DONMETZ and BRICE.⁷ Finally the most extensive factory site of stone implements known in the Indus Valley, is the site of Sukkar and Rohri in Pakistan. Here the river flows through a gorge of limestone with extensive out-crops of fine chert. This site on either bank of the Indus has never been studied properly, though vast collections have been made for more than half a century. Of all the varieties of stone tools, the most famous finds of this site are the fine fluted cores. A few crested flakes were illustrated by PATERSON and DE TERRA.⁸ As very few cores have been reported from the chief cities of Mohenjodaro and other cities of the Indus Valley, it is not unreasonable to infer that blades were being exported from here. Alluding to the earlier finds MARSHALL^{8a} writes that "We now know that the flakes and cores from the Indus bed (at Rohri) are identical with those found at Mohenjodaro and Harāppā and were produced in the Chalcolithic Period."

5. CLARK, Grahame, *Prehistoric Europe*, London, 1952, pp. 182-185.

6. BOSANQUET, *British School in Athens III*, (1896-1897), pp. 216-233, and *op. cit.*, p. 218, (1904).

7. DONMETZ and BRICE, *op. cit.*

8. DE TERRA, H. and PATERSON, T. T., *op. cit.*, 1939, Pl. I. 1-2.

8a. MARSHALL, John, *Mohenjodaro and the Indus Civilization*, I., p. 92-93.

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A few petrological or spectrographic analyses of materials from different sites will finally solve this problem. Such an assumption can be easily verified from the site of Sakce Gozu. At the town site excavated by J. du Plat TAYLOR, M. V. Seton WILLIAMS and John WAECHTER⁹ none of the waste materials were reported, but from the cave site, we have our characteristic "*lames de degagement*."¹⁰

So one of the most important features of this technique may be stated to be the beginning of huge factory sites where the waste products of such efforts may be studied. The natural corollary of this, *viz.* export of finished blades and blade flakes, can be inferred from the notable feature of a number of sites where blades occur in profusion with a disproportionately small number of cores.

Distribution

We have already seen the difficulties of studying and identifying the technique. Hence, wherever we have definite evidence of this elaborate preparation of these cores or any other evidence, it is accepted. But since we have already discussed the origin and function of these crested ridges or *lames de degagement*, their occurrence is also taken as evidence of it. Hence the following distribution data is based on both these criteria. The other difficulty is of chronology. It is difficult to date some of these factory sites. But a few well dated sites like Jericho and other sites in the "Fertile crescent" can help us to trace the beginnings of this technique.

Western Europe

The classic area is Grand Pressigny, already described. According to CLARK, Grand Pressigny flint seems first to have entered Switzerland in any quantity with the 'corded ware'. In Jersey it was common at the Pinnacle site and it occurred in a Bronze Age Barrow III at Emmen in Gelderland.¹¹ According to EVANS, it was noticed at Spiennes near Mons in Belgium and Denmark.¹² The writer noticed a large core of the Grand Pressigny type from Robenhaus in Switzerland and at the Museum at Les Eyzes, France.

9. Du Plat, TAYLOR J., Seton WILLIAMS, M. V., WAECHTER, J., Excavations at Sakce Gozu, *Iraq*, XII, 2, 1950, pp. 53-138.

10. WAECHTER, J. GOGUS, SABHAT, and SETON WILLIAMS, VERONICA, "Sakce Gozu—Cave site—1949", *Bulletin Turk Tarin Kurumu*, cilt XV, Ankara 1951, pp. 193-201.

11. CLARK, *op. cit.*, p. 251-252.

12. EVANS, *op. cit.*, p. 27.

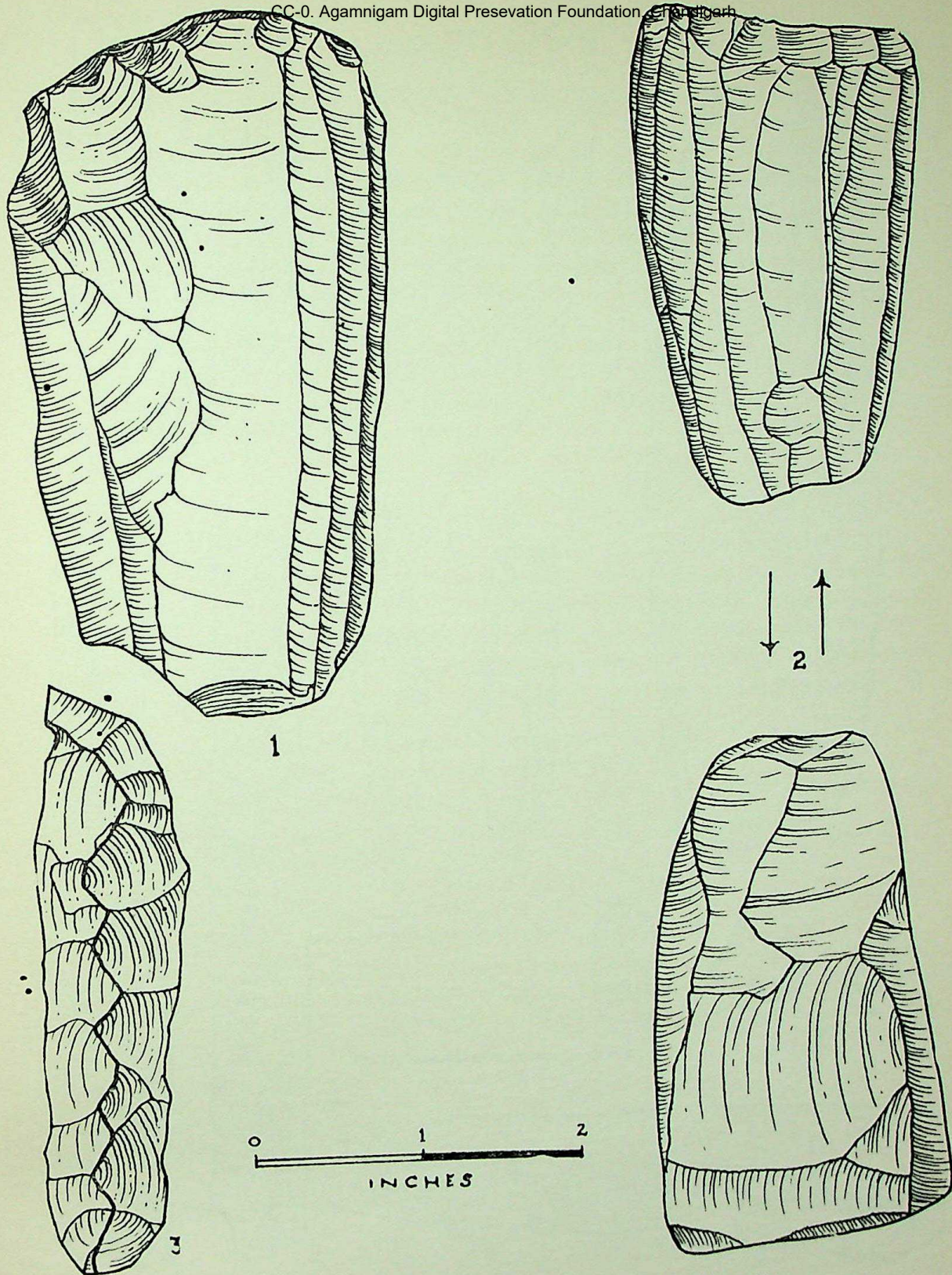


Fig. HH. Cores and crested flakes Kot Diji (1, 2) and Hisbani. (See p. 62.)

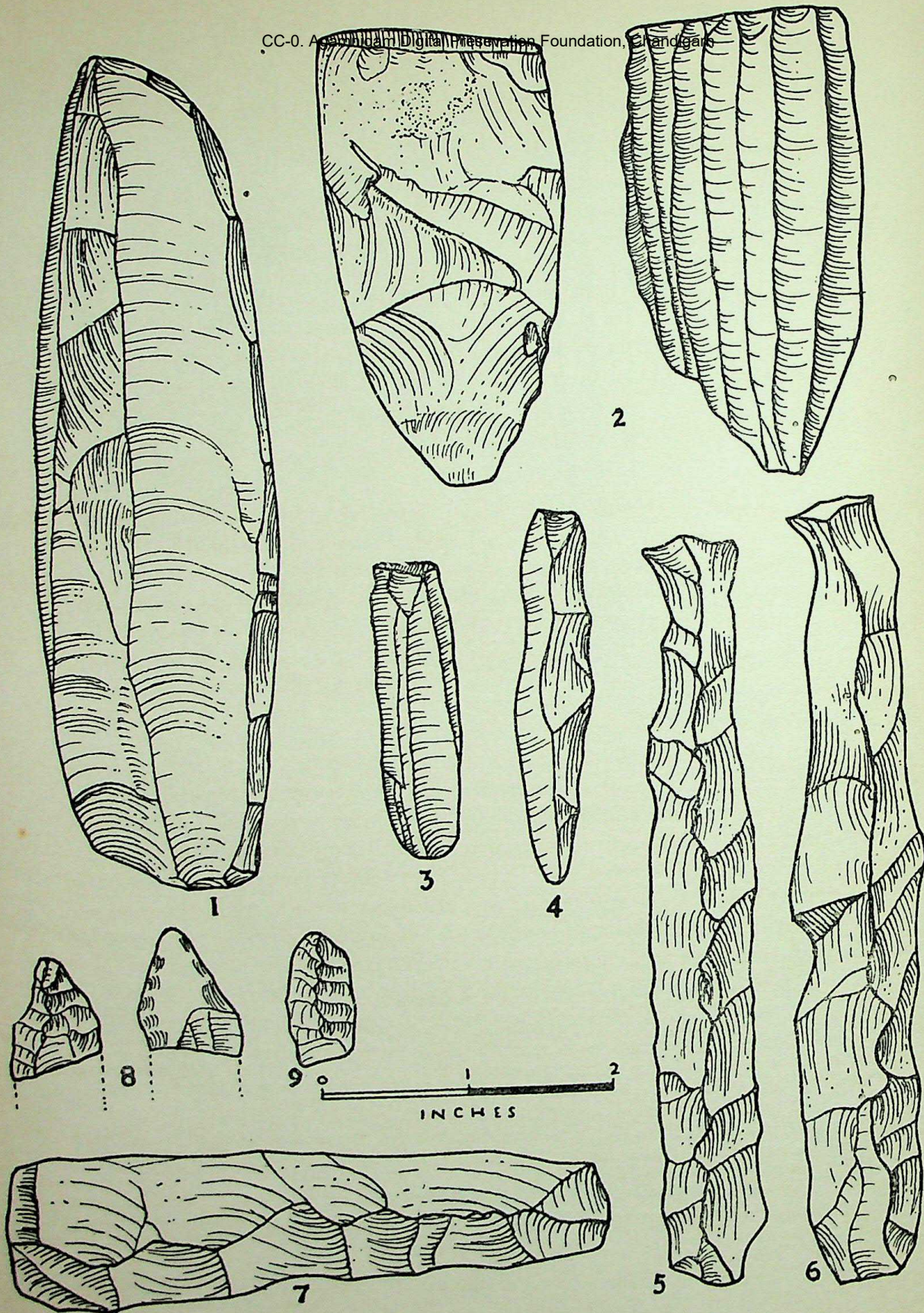


Fig. 11. Cores and crested flakes from Cutch and Pakistan. Sukkur-Rohri (1-7); Lodag (8-9). (See p. 62)

THE BLADE INDUSTRY OF PERIOD III

Aegean Region

We have already seen the importance of Melos. From the Finlay collection lying in the Manchester Museum, WILLETT has reported the following sites in Greece;¹³ Cerigo, Braonais, Corinth and Chiliomodi. It is quite well known that obsidian from Melos occurs in Crete, according to PENDELBURY in the Neolithic, Early Minon I and III.¹⁴

According to Stephanos XANTHOUDIDES, the obsidian from Melos occurs in the vaulted tombs of Mesara in Southern Crete,¹⁵ at the following sites: Platanos, Asprepetra, Koumsa (actual crested flake has been found) and Kalathiana.

Turkey

We have already seen the evidence from the site of Duluk near Gaziantep and Sakce Gozu. At the latter, the cave site yielded well defined specimens described as *lames de degagement* and the habitation belongs to two periods: Middle Chalcolithic (Ubaid) and pre-Hittite—Early part of the II millennium (1950-1450 B.C.)¹⁶. GARSTANG reported a huge outcrop of obsidian near Nevshehr in south-western Turkey, north of Meisin, but his collection of "extremely plentiful" cores and flakes has not been published.

Middle East (Fig. GG).

Here fortunately, we have definite evidence about the beginnings of this technique from excavations. The best evidence comes from the excavations at Jericho in Palestine by John GARSTANG. A number of crested flakes from this collection lying in the Institute of Archaeology, London University, are illustrated in Pl. XI A. They come from the Neolithic levels of Jericho (Nos. 1, 2, 3 Fig. GG)¹⁷. From the Samarran site at Baghouj, Linda BRAIDWOOD has reported—*lames de degagement*.¹⁸ From the Jordan Valley, D. KIRKBRIDE has discovered similar crested flakes from Jerash and

13. WILLETT, *op. cit.*

14. PENDELBURY, J. *Archaeology of Crete*, pp. 39, 52 and 90.

15. XANTHOUDIDES, Stephanos, *The Vaulted tombs of Mesara—An account of some early cemeteries of Southern Crete*. Trans. by J. P. DROOP, Liverpool, 1924, p. 21, (Pl. XXII. No. 866) and p. 84.

16. WAECHTER, Gogus and Seton WILLIAMS, *op. cit.*

17. GARSTANG, John, "*Jericho city and Necropolis*"—Fifth Report, *Liverpool Annals of Archaeology and Anthropology*, XXII, 1935. See Notes on Flint implements by Joan CROWFOOT, (Section IX) pp. 174-184.

18. BRAIDWOOD, R. J., BRAIDWOOD, Linda, TOULENE, Edna and PERKINS, Ann. L. "New Chalcolithic material of Samarran type and its implications," *Journal of the Near Eastern Studies*, III, 1, 1944, p. 55.

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Uweinid near Azraq. According to Professor F. E. ZEUNER, who kindly permitted me to publish the specimen from Jerash (No. 5, Fig. GG), the industry is not yet studied, but it may probably belong to the Neolithic (?). From the Sturge collection in the British Museum, there are a few cores from a site called Makertu in Iraq, about 70 miles from Baghdad.¹⁹ (No. 6, Fig. GG).

According to Col. D. H. GORDON²⁰, a similar blade industry "on mass production utility lines" has been found at Alishar Huyuk, Shah Tepe²¹, and Sialk²² in Iran and Sinjar²³ in Iraq. At Sialk Pls. LV and XCVI show only long blades and blade flakes and as the writer has commented elsewhere the diagnostic criterion is always taken to be the crested flake.

Pakistan

We have already referred to the factory sites of Sukkur and Rohri (Fig. JJ). At a number of sites, large quantities of chert blades, with very little retouch have been found. On the analogy of the other factory sites, we may suggest that finished products might have been exported. Chanhudaro yielded a few flakes with crests.²⁴ Probably a fresh examination of some of these materials from the Indus Valley sites is a great desideratum. In the collection of late K. R. U. TODD from Karachi, there is one crested flake. In the Prince of Wales Museum, Bombay, specimens collected by GHURYE from Hisbani and Kot Diji show the same technique (Fig. HH).²⁵ According to Col. D. H. GORDON again, a similar long blade or ribbon flake industry is widespread at Tal-ir-Pir, Harif near the coast and sites like Bakun, Khusu, Fasa and Dehbid from Stein collection, probably from Makran.

India (Fig. KK).

After the identification of this technique, thorough enquiries were made and this brought to light the wide distribution of this technique. The size in the recent collections varies from five inches to about an inch. The most interesting find came from Mirzapur. Unfortunately, all traces of this

19. SMITH, *op. cit.*

20. From a personal communication; I acknowledge the indebtedness to him for the trouble he has taken to compare the industries.

21. ARNE, T. J., *Excavations at Shah Tepe, Iran*, Pl. LXXI and Fig. 567.

22. GIRSHMAN, R., *Fouilles de Sialk Pres De Kashan*, Paris 1938. Pls. LV and XCVI.

23. Seton LLOYD, *Iraq*, 1940, Vol. VII.

24. MACKAY, E. J., *Chanhudaro Excavations*, 1935-36, Pl. XCIII, 29.

25. A similar industry is found in the Lop Desert, Central Asia. See STEIN, Aurel, *Innermost Asia*, Vol. III, Pl. XXII (H.D.S.).

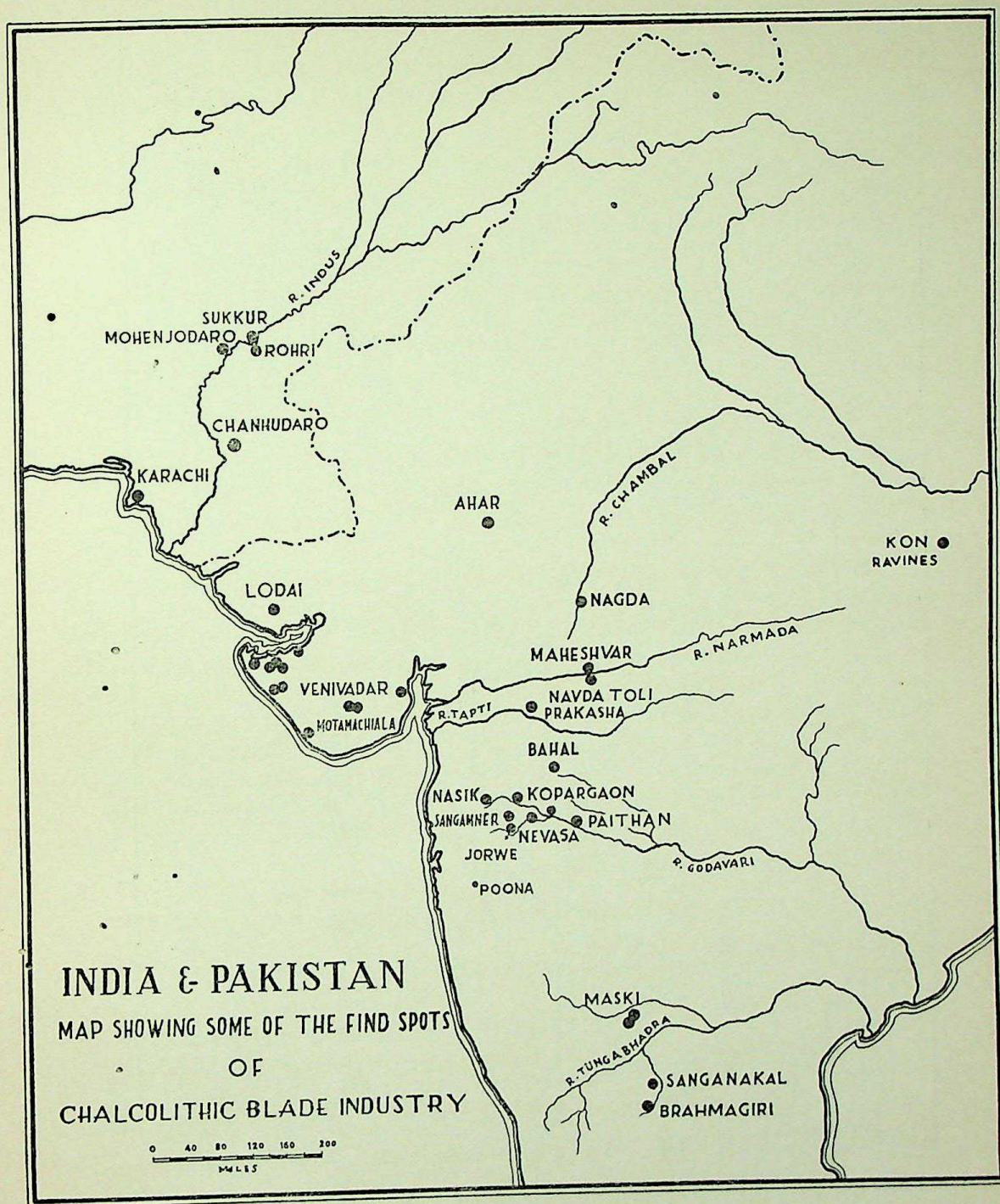


Fig. KK (See p. 62)

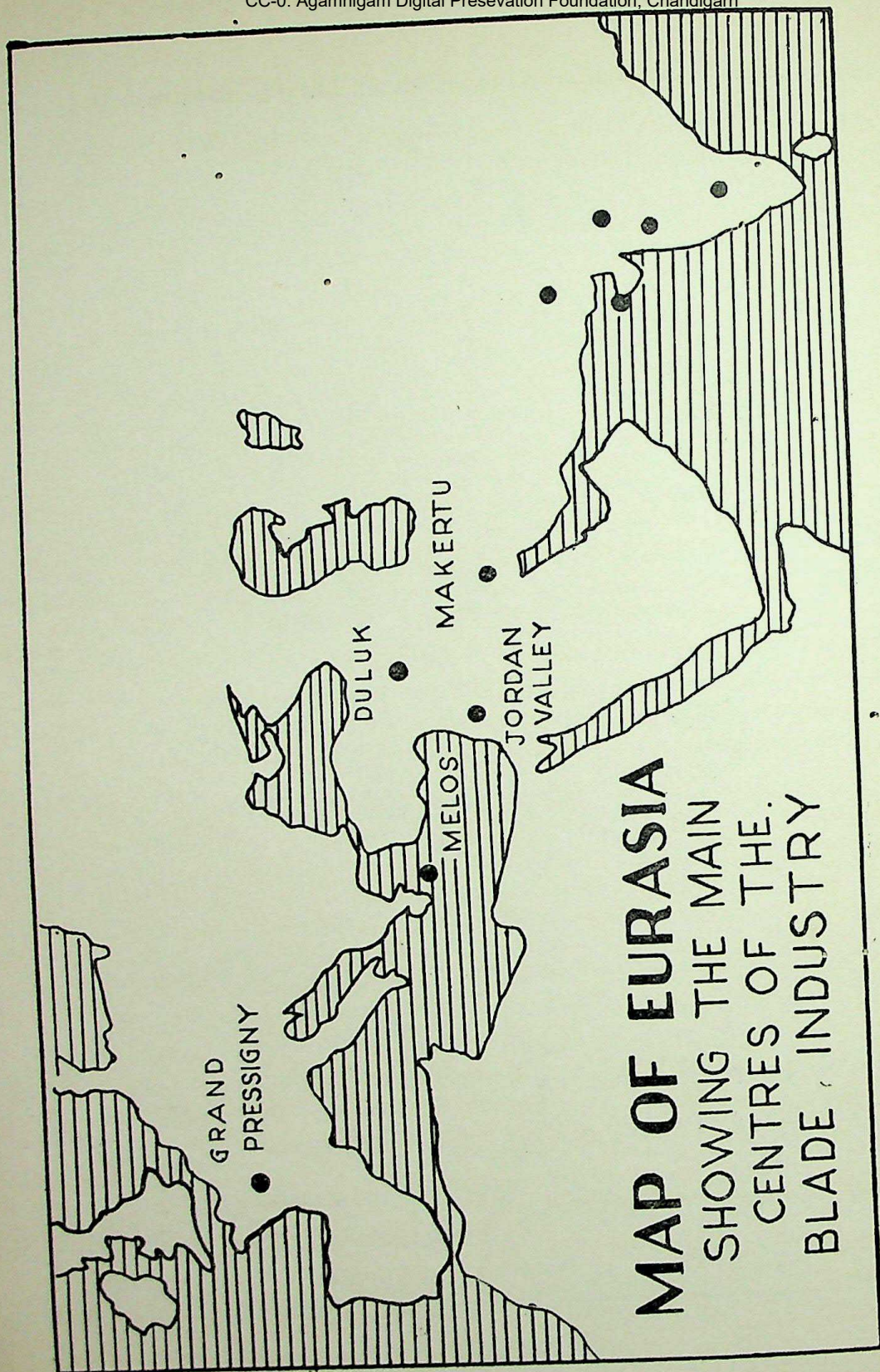


Fig. LL (See p. 65)

THE BLADE INDUSTRY OF PERIOD III

material were lost in Britain, where they were taken. Hence I can do no better than quote COCKBURN :—

“ Chert is derived from the Lower Vindhyan lime stone rocks in the vicinity. Indeed the Lower Vindhyan strata crop up in ravines themselves and at the southern margin of the ravines, abut against the red gneiss of south Mirzapur. From the large size of implements exhibited, there can be no doubt whatever that this was an exceptionally favourable locality for procuring chert in large blocks, probably the finest on the borders of the Sone. There is only one other locality in India where flakes of similar dimensions have been found, and that is near Rohri in Sind ; ”

“ A comparison of these specimens . . . with flakes from the rock shelters of south Mirzapur (Sarhow cave) will at once show their comparatively gigantic size. These Kon flakes are about the same size as the finest English and Irish specimens. It must be understood that these flakes, though half the size of the fine specimens from Pressigny, in France, as in example at p. 28 of EVANS *Ancient Stone Implements of Great Britain*, Fig. 6, have the merit of having their bevels made at a single blow. The very large French and English examples have all their ridges trimmed by blows administered at right angles to their length, so as to form a ridge, Nos. 8 and 10 come under EVANS' definition of flat flakes, having had a flake struck off the ridge. No. 3 is a ridged flake and was probably intended to be made into a spearhead. No. 20 is a typical flint knife. Examples of large coarse flakes 10 to 12 inches long and rivalling the largest European specimens will be seen in Figs. 15, 16, 17²⁶ and 18.”

Who will dispute the bonafides of COCKBURN after looking at his elaborate comparisons ? It is only tragic that his paper is marred by bad illustrations, specially is it more so, when all traces of this material have been lost and his notes are scanty. A fresh exploration is the obvious solution.

Similarly in the Kaladgi limestone series of Bijapur and Western Raichur, we have very good sources of chert. Again Raichur district yields long blades and cores and we have definite evidence of this technique at Maski. From the older collections in the Hyderabad Museum²⁷ the following specimens provide an interesting comparison :—

- M. 3247-52 F. : A core with a crest on the side and shows the evidence of dressing.
- M. 3245-52 F. : Dressed core partly worked.
- M. 3248-52 F. : Dressed core partly worked.

In the Annual Report of 1935-36, we have a crested flake.²⁸ Shri B. K. THAPAR reports that he has large number of crested flakes and cores showing the preparation from his recent excavations at Maski.²⁹

26. COCKBURN, J. “ On flint implements from the Kon ravines south of Mirzapur ” *Journal of the Asiatic Society of Bengal, Proceedings*, 1894, 3, pp. 21-27.

27. I am very much obliged to the Director of Archaeology, Hyderabad for permitting me to examine it.

28. *Annual Report of the Department of Archaeology, Hyderabad State, 1935-36, Pl. III (d).*

29. I am very much obliged to Shri B. K. THAPAR for information.

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Now reverting to areas where the raw material is defective and not of the requisite size, we find a remarkable adaptation by these Chalcolithic people. They used it on the small nodules and yet retained all the features of the technique, as the Maheshvar Blade industry amply demonstrates. This technique has been definitely identified in the valley of the Chambal at Nagda, where we get characteristic cores and flakes. Shri WAKANKAR and Shri KHATRI have a number of sites of the Proto-Historic culture in the Malwa plateau. On the eastern fringes of Malwa, at the foot of the Aravallis, the Rajasthan Department of Archaeology has conducted excavations at Ahar, near Udaipur.³⁰ This area belongs to the Banas system, which is a tributary of Chambal, which in turn joins the river Jamuna. Here again, the Maheshvar type sequence was repeated with the same materials.

The extensive explorations of Shri M. N. DESHPANDE followed by his excavation at Bahal on the Girna in East Khandesh,³¹ the excavations of Shri B. K. THAPAR at Prakash³² in West Khandesh, and excavations of Dr. SANKALIA at Nasik, Jorwe³³ and Nevasa, leave no doubt about the wide distribution of this technique in the valleys of the Tapi and the Godavari.

Going further south into the Krishna Basin, we have already referred to Maski, where it occurs in an identical cultural context. At Brahmagiri in Northern Mysore, a crested flake has been illustrated³⁴ and it may be noted that very few cores have been found. At Sanganakal near Bellary a few cores have been found,³⁵ but fresh exploration is needed, since the existence of this technique was not known at that time. Here again, they all go with the Chalcolithic culture.

Explorations by Shri P. P. PANDYA in the Halar and Sorath districts³⁶ and the excavations of Shri S. R. RAO at Rangpur and Motamachiala.

30. I am very much grateful to Shri R. C. AGARWALA for this information.

31. I am very much obliged to Shri M. N. DESHPANDE for the information.

32. *India News* and personal communication from Shri B. K. THAPAR, for which I am very much obliged.

33. SANKALIA, H. D. and DEO, S. B., *The Excavations at Nasik and Jorwe*, Fig. 58 and Frontispiece.

34. WHEELER, R. E. M., "Brahmagiri and Chandravalli", *Ancient India*, No. 4, Pl. CXIV.

35. SUBBARAO, B., *Stone Age Cultures of Bellary*, Deccan College Dissertation Series, 7. Poona, 1948. Pl. XXIV.

36. PANDYA, P. P., "Archaeological Exploration in Halar.", *Journal of the M. S. University, Baroda*, Vol. IV. No. 1, 1954.

THE BLADE INDUSTRY OF PERIOD III

also reveal the same feature about the age and character of this blade industry.³⁷

Conclusion (Fig. LL).

We have seen the wide distribution in space and time of this particular technique of production of blades on a large scale. The size of the blade is more or less determined by the range and character of the raw material. The most important features may be stated as follows :—

1. Somewhere in the Neolithic period in the 'Fertile Crescent', this new technique of mass production of blades started among the "incipient agricultural communities" of BRAIDWOOD, and it continued to flourish right into the Bronze Age. It seems to have spread in either direction towards Europe and India.
2. The utility of stone implements begins to decline with the gradual appearance of metals. Of all the earlier forms, the blade remains the most useful tool.
3. Emergence of this technique led to the appearance of huge factory sites near the sources of raw materials.
4. The decline in the production of the types of stone tools and the emergence of the technique can be recognized by the dominance of the blades in the local stone industries.

This general decline is very pertinently pointed out by R. J. BRAIDWOOD. "Matarrah produced no identifiable projectile points and, in fact, no flint or obsidian objects which had any secondary retouch such as exhibited on Hassuna examples.....the impression one receives.....is of a flint industry which has few identifiable types, only sickle blades and projectile points and perhaps an end scraper can be identified in the illustrations but which is primarily a *neat blade industry*".³⁸ The statistical data from Maheshvar speaks for itself.

37. I am very much obliged to Shri S. R. RAO for this information.

38. BRAIDWOOD, R. J., and others, *op. cit.*, p. 68.

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V

COINS

Early Coins

Exploration at and excavations of the three mounds at Maheshwar and the three at Navdatoli yielded a fair number of coins. Their position and types are briefly indicated first before discussing their importance for dating the various cultural periods. The details with regard to the identification of the coins follow later.

Types of Coins

- I Punch-marked Silver (Large 1)
 II Punch-marked Silver (Small 10)

No. 1036 MHSR. II, A1. (15).

MHSR. V. Surface.
 Nos. 1006 a-j

- III Punch-marked Copper (2)

No. 1006. MHSR. II. A1 13
 No. 161. MHSR. II. I.

- IV *Uninscribed Cast Copper* (7)

- i. Obv.—Elephant with rider
 Rev.—Hill

No. 2546, NVT, MD. II, Tr. III, B(2)

- ii. do. do. do.

No. 861, MHSR, MD. II, Tr. II. B(8).

- iii. do. do. do.

No. 5, MHSR, MD. I, Surface.

- iv. do. do. do.

No. 57, MHSR, MD. I, Surface.

- v. Obv.—Hollow Cross, Tree in railing
 Rev.—Blank.

No. 4917. NVT. MD. III. Tr. IV. J(6)

- vi. Obv.—Hollow Cross.
 Rev.—Hill, with dots.

No. 83A. MHSR. Surface.

- vii. Var. j. k.

No. 993. MHSR. MD. II. A.(11).

V. *A. Tribal*

- i. Taxila : New sub-type in Class 2. Var. a-f. No. 932 MHSR. II. Tr. II B(9).
 ii. Taxila : New sub-type in Class 1. Var. a. No. 626a. MHSR. II. Tr. II A(5).
 iii. Taxila : New sub-type falling within Class 3-4. No. 57 B. MHSR. Surface.
 iv. do. No. 57 C. do.
 v. do. No. 57 D. do.
 vi. do. No. 57 E. do.

B. Ujjayini

- i. Ujjayini: Probably a new sub-type.

Class 1. Var. d. (Cf. 490 below) No. 139. MHSR. I. Tr. I. B(4).
 No. 490. MHSR. II. Tr. II (4).

- ii. do.

No. 688. MHSR. II. Tr. II (15).

- iii. do. Class 6. Var. b.

No. 626. MHSR. II. A (5).

- iv. do. Class 3. Var. d.

COINS

v.	Ujjayini:	Probably a new sub-type. Class 1. Var. d. No. 971. MHSR. II. A(12)	
vi.	do.	Exact type not known.	No. 63a. MHSR. II. Tr. II B (12).
vii.	do.	do (Cf. No. 139)	No. 490. MHSR. II (4).
viii.	do.	do (Cf. Class 4) Var. d.	No. 5a. NVT. MD. II. Surface.
ix.	do.	do.	No. 120 A. NVT. MD. II. Surface.
x.	do.	Class 6. Var. b, d.	No. 30. MHSR. I. Surface.
xi.	do.	Class 1, Var. i.	No. 120. MHSR. I. Surface.
xii.	do.	Undetermined.	No. 83. MHSR. I. Surface.
xiii.	do.	Class 6, Var. b.	No. 82. MHSR. I. Surface.
xiv.	do.	Undetermined. Cf. Taxila ALLAN, <i>B.M.C.</i> Pl. XXXI, 13-16.	No. 83C MHSR. V. Surface.
xv.	do.	(Similar coin No. 784 in Shri WARANKAR's collection, also from this mound).	
xvi.	do.	Class 6, Var. b.	No. 57 F. MHSR. V. Surface.
xvii.	do.	Class 2. Var. k. or Punch-marked.	No. 57 G. MHSR. V. Surface
xviii.	do.	Class 6, Var. b.	No. 57 H. MHSR. V. Surface.
xix.	do.	Cf. Class 3, Var. 1.	No. 83 B. MHSR. Surface.
xx.	do.	Cf. Class 2, Var. a. or Var. g.	No. 57 MHSR. Surface.
xxi.	do.	Undetermined	No. 57 F. MHSR. Surface

Thus we have :

13 Punch-marked, all from MHSR.

7 Uninscribed Cast Copper (1 from NVT. and 6 from MHSR.)

27 Tribal (6 Taxila, 18 Ujjayini and 3 Mahisati) (2 from NVT.,
25 from MHSR).

1 Sātavāhana(?)

leaving a few blurred ones and some completely corroded ones from excavations.

Though a great majority of the coins are from the surface, it should be noted that no coin was found in the Chalcolithic layers at NVT or at MHSR.V. This fact thus fixes their earliest limit. As for the dating of the coins themselves, their occurrence is not inconsistent with the views hitherto held regarding their chronology and based solely on fabric and type. Thus, a silver and two copper punch-marked coins, and two cast uninscribed and one of the 9 stratified Tribal (uninscribed) coins and mentioning, if at all, the name of the city, came from fairly deep layers of MHSR. II.

Conversely, we may date the various coin types with a new yardstick, viz. pottery. The Red Polished Ware is absent from layers 8 to 19 of Tr. II and 2 to 13 of Tr. III at Maheshwar. The Black-and-Red ware progressively increases in the lowest layers of Period IV (MHSR II and III), whereas at

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NVT it is confined to layers 2-4 of Tr. I, 3-9 of Tr. III, and 2-3 of Tr. IV. The NBP occurs in a very small number. Out of 20 pieces, one each is found in layers 12 and 16 of Tr. II at MHSR. It is from these that the punch-marked coins Nos. 1006 and 1036 were found. Of the 7 uninscribed cast coins—one No. 993 was recovered from layer 11, whereas the Tribal Coins (Ujjayini)—Nos. 971 and 1063a—in layer 12.

The numismatic and ceramic evidence is thus mutually consistent, and may be accepted in the present state of our knowledge, unless a more satisfactory, absolutely independent, means of dating the layers is available in India.

Some of the coin types had been found before, for instance, from Kasrawad, three miles south of Maheshwar. Here the NBP occurred in plenty, but the exact position of the coins is unknown. Maheshwar provides, for the first time, this context. It indicates that all the coin types, wherever they actually originated, were current at Maheshwar, and we may say in the whole of Malwa, thus confirming the impression gathered from surface distribution. The occurrence of so many types of coins also proves the great importance of Maheshwar or Māhishmatī in the Proto-Historic and Early Historic Periods.

I. Punch-Marked Coins : Silver (Large)

Serial No.

- 1 No. 1036. MHSR. II. AI (15). Depth 37 ft. 6 in. Pl. XII. 1.

Silver Oblong. 19 mm. \times 18 mm. 42 grains. 2.722 gm.

Obv. : Five symbols :—(1) The Sun, (2) Śadaracakra, (3) The Hare-on-the-Hill, (4) The bull facing right and (5) Circle with a thick knob between two taurines.

Rev. : Only one faintly punched Sun-like symbol.

Idf. : Silver punch-marked coin. cf. ALLAN, *BMC*. Class 6, Group III, Var. For further details see *JNSI*. XV (1953), pp. 198-99. Though common at Taxila, a punch-marked coin of this type was not found in Central India so far.

II. Punch-Marked : Silver (Tiny)

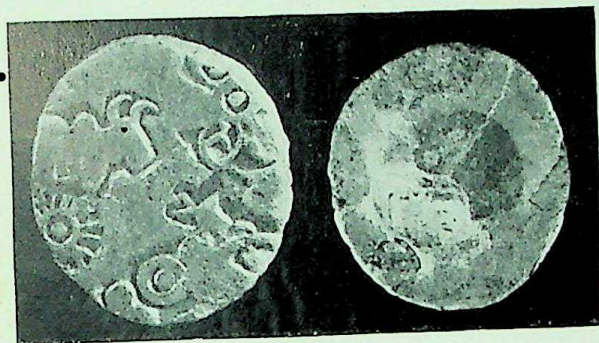
Nos. 1006a-1006j. MHSR. V. Surface (Only the obverses are illustrated)

- 2 No. 1006a. Silver. Diam. 5 mm. Thick. 2 mm. 2 grains or 0.121 gms.
Not Illustrated.

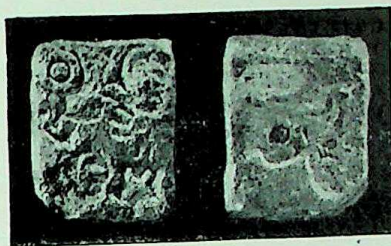
Obv. : A blurred symbol, probably a taurine, a crescent, or treskelis and a dot or a shield-like object.

Rev. : Blank.

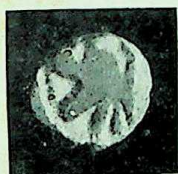
PLATE XII



1 (1036)



12 (1006)



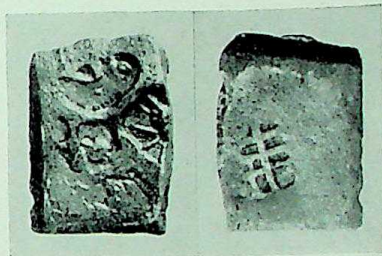
3 (1006b)



4 (1006 c)



6 (1006 •)



13 (161)



8 (1006 g)



7 (1006 f)



9 (1006 h)

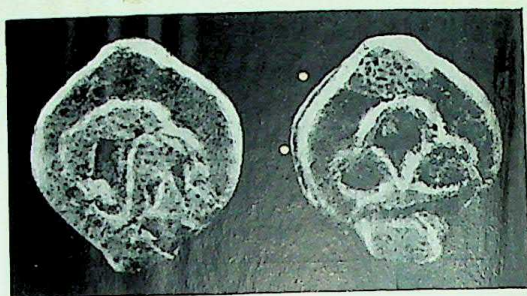


10 (1006 i)

Silver and Copper Punch-marked Coins. Nos. 1 and 12 enlarged twice, rest about thrice. (See pp. 68-69)



14 (993)



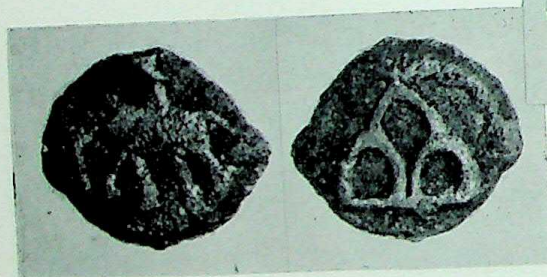
15 (861)



16 (861 A)



17 (861 B)



19 (57)



22 (4917)



20 (5)



21 (83 A)

Uninscribed Cast Copper Coins [2/1]. (See pp. 70-72)

COINS

Serial No.

- 3 No. 1006b Silver. Diam. 5 mm. Thick. 1 mm. $1\frac{1}{2}$ grains or 0.099 gms.
Pl. XII. 3.

Obv. : A central taurine surrounded by traces of some other symbol(s); bull's head (?) According to Dr. AGARWALA "Bull facing left with four taurines, two above and two below."

- 4 No. 1006c Silver. Diam. 5 mm. Thick. 1 mm. $2\frac{1}{2}$ grains or 0.146 gms.
Pl. XII. 4.

Obv. : Probably an elephant or bull facing right, two taurines lying on their sides facing right. (Bull facing left with 4 taurines—2 above and 2 below).

- 5 No. 1006d Probably Copper. Diam. 4 mm. Thick. 1 mm. 2 grains or 0.131 gms.
Not Illustrated.

Obv. : Much worn out, perhaps a crown or a shield. " (Three taurines around a dumb-bell)."

- 6 No. 1006e Perhaps Copper. Diam. $4-4\frac{1}{2}$ mm. Thick. 1 mm. $2\frac{1}{4}$ grains 0.150 gms. Pl. XII. 6.

Obv. : Crown-like, new symbol.

- 7 No. 1006f Silver 4 mm. $1\frac{1}{3}$ mm. 0.159 gms. nearly $2\frac{1}{2}$ grains.
Pl. XII. 7.

Obv. : Surface silvery white and not much worn out. Probably a treskelis and a taurine to right; the former is more worn out. " (Treskelis surrounded by three taurines)."

- 8 No. 1006g Silver $5\frac{1}{4}$ mm. $\frac{1}{2}$ mm. 0.131 gms. 2 grains and a little more. Pl. XII. 8.

Obv. : Silvery white surfaces, partly effaced. Probably a variety of six-armed symbol or crescents around a central hub. Cf. Symbols Nos. 2 or 5 or 18 of GUPTA's from Taxila and Ujjain, respectively.

- 9 No. 1006h Silver 4 mm. 1 mm. 0.127 gms. about 2 grains. Pl. XII. 9.

Obv. : Silvery white surfaces, edges rounded with a crack at one place. Probably a treskelis and taurine. (Similar to No. 7).

- 10 No. 1006i Silver 4 mm. 1 mm. 0.114 gms. about $1\frac{1}{4}$ grains. Pl. XII. 10.

Obv. : Silvery white surfaces, the edges slightly tarnished at one place. Probably treskelis and a taurine. (Similar to No. 7).

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Serial No.

- 11 No. 1006j Silver $4\frac{1}{2}$ mm. 1 mm. 0.148 gms. about $2\frac{1}{2}$ grains.
Not Illustrated.

Obv. : Worn out, edges cracked. The symbol is illegible. There is a triangular depression, which may be a part of symbol 13 or even 19 described by Shri Gupta.

Idf. Raupya-Ardha-Māsaka coins. For further details see *JNSI*. XVI (1954), pp. 36-39.

III.

Punch-marked : Copper

- 12 No. 1006 MHSR. II. AI (13), Depth 33 ft. Pl. XII. 12.

Copper. : $14 \times 10 \times 3$ mm. (with its shorter sides bevelled and slightly cut at one corner).
About 41 grains (2.669 gms).

Obv. : Probably five symbols, of which the following three are certain.
(1) The Sun (left centre). (2) Śadaracakra (right bottom). Two concentric circles with a part of the taurine clearly visible. (3) Crescent-on-hill (top left). (4 and 5) Humped bull (?), and a circle within a square or rectangle.

Rev. : Three faintly punched symbols. (1) The Sun, (2) Lotus, and (3) indistinct.

Idf. : Copper punch-marked coin. For details see *JNSI*. XV (1953), pp. 200-201.

- 13 No. 161 MHSR. II (1). Depth 6 inches. Pl. XII. 13.

Copper 14 mm. \times 9 mm. or $\frac{1}{2}$ in. \times $7/16$ in. Weight 26 grains or 1.72 gms.

Obv. : There are at least three symbols : (1) The Sun, (2) Six-armed symbol, and (3) an animal-like, all partial.

Rev. : Caduceus.

Idf. : Cf. *JNSI*. XVII (1955), Pt. i. Group VI, var. c. Pl. XI, 3.

IV.


Uninscribed : Cast Copper





- 14 No. 993 MHSR. A (11). Tr. II, Depth 25 ft. 4 inches. Pl. XIII. 14


Copper

Size : Square 11 mm. \times 12 mm.

Weight : 0.634 gms.

Obv. : Elephant facing left, in front, above a Svastika  below III (slightly) blurred.

Rev. : Top portion partly peeled off. The lower has   to left, and  

tree in railing to right, and the lower portion of a symbol 

Idf. : The coin seems to be identical with ALLAN's Uninscribed Cast Coins, Var. j and k., pp. 88-89, pl. XI, 8-9.

COINS

Serial No.

- 15 No. 861 MHSR. II. Tr. II. B (8). Depth. 18 ft. 1 in. to 19 ft. 6 in.
Pl. XIII. 15.

Copper.

Size : Round, with protuberances (remains of the metal left after detachment from the mould).°

Weight : 2.431 gms.

Obv. : Elephant facing left with rider.

Rev. : Crescent-on-hill, with probably a pellet in each arch.

Idf. : The coin is identical with the Cast Uninscribed Coins of ALLAN. Var p. p. 93, pl. XI, 23. It may also be compared with the Taxila type, Class 5, pl. XXXIV, 16 and 18, but in these the elephant faces right and there is a rider, while the hill has a crescent.

- 16 No. 861A. MHSR. Surface (Shaikh's Collection). Pl. XII. 16.

Cop. : Diam. 14 mm. or $\frac{1}{2}$ in. Wt. 32 grains or 2.095 gms.

Obv. : Elephant facing left with rider.

Rev. : Crescent-on-hill with probably a pellet in each arch.

- 17 No. 861B MHSR. Surface (Shaikh's Collection). Pl. XII. 17.

Cop. : Diam. 14 mm. or $\frac{1}{2}$ in. Wt. 30 grains or 1.968 gms.

Obv. : Elephant facing left with rider.

Rev. : Crescent-on-hill.

- 18 No. 2546 NVT. II. Tr. III. B (2). Not Illustrated.

Cop. : $\frac{9}{16}$ inches in Diam. or 19 mm. Wt. 34 grains or 2.231 gms.

Obv. : Elephant with rider (very faint) facing left.

Rev. : Hill (slightly effaced).

Idf. : Cast Uninscribed Coin. Cf. ALLAN, p. 93, pl. XI, 23.

- 19 No. 57 MHSR. I. Surface. Pl. XIII. 19.

Cop. : $\frac{1}{2}$ in. or 18 mm. Wt. 24 grains or 1.597 gms.

Obv. : Slightly blurred, but showing elephant with rider facing left.

Rev. : Hill-with-crescent, with pellets in each arch.

Idf. : Cast Uninscribed Coin. ALLAN. Var. p. p. 93, pl. XI, 23.

- 20 No. 5 MHSR. I. Surface. Pl. XIII. 20.

Cop. : $\frac{9}{16}$ in. in Diam. or 19 mm. Wt. 45 grains or 2.929 gms.

Obv. : Elephant with rider facing left.

Rev. : Hill-with-crescent.


Idf. : Cast Uninscribed Coin, ALLAN. Variety, p. p. 93, pl. XI, 23.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Serial No.

21 No. 83A MHSR. Surface (Shaikh's Collection). Pl. XIII. 21.

Cop. : Diam. 16 mm. or 5/8 in. Wt. 79 grains or 5.195 gms.

Obv. : Hollow cross 

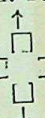
Rev. : Hill symbol without crescent on top shown by deep holes.

Idf. : Cf. Uninscribed Cast Copper, Var. m. pl. XI, 16, Text p. 93. The only difference is that ALLAN's has a crescent-on-the-hill. Similar, but slightly different varieties exist in Taxila types, which are all square.

Cf. ALLAN, pl. XXXIII, 10-16, and XXXV, 2, 3 and 7.

22 No. 4917 NVT. III. Tr. IV. J. (6). Pl. XIII. 22.

Cop. : Diam. 16 mm. or 5/8 in. Wt. 31 grains or 2.065 gms.

Obv. :  to left. Tree in railing to right.

Rev. : Blank, but the loop bar pressed, and the edge slightly thicker and pressed at one end.

Idf. : Probably a new variety or sub-type of Cast Uninscribed Coin. ALLAN, pl. XI, 17-18 have an identical cross, but it is only on the obverse, and a Tree in railing on the reverse.



V.

Tribal


A. Taxila

23 No. 626A MHSR. II. Tr. II. A (5). Depth 19 ft. 4 in. Pl. XIV. 23.

Cop. : 11/16 in. or 16 mm. Wt. 24 grains.

Obv. : Vertical  "monolith" symbol to left, a small svastika  in the centre and a Mauryan *ma* 8 to right.

Rev. : Plain.

Idf. : Probably a new sub-type of ALLAN, Taxila, Uninscribed and Die-struck coins, comparable to Class I, Var. a, where we have a monolith  on the obverse. The reverse is plain.

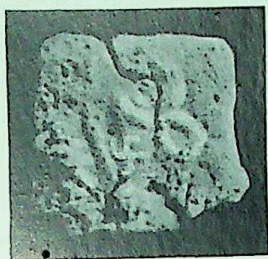
Cf. ALLAN, Introduction, p. cxxxiii, Text, p. 219, pl. XXXII, 1, 2.

24 No. 932 MHSR. II. Tr. II. B (9). Depth 21 ft. 8 in. Pl. XIV. 24.

Cop. : Square 12 mm. Wt. 1.386 gms.

Obv. : Blurred.

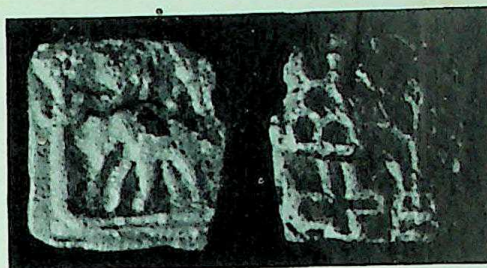
Rev. : Horse to left, star above, facing probably a taurine-like symbol.
Cf. ALLAN, Taxila Class 2, Var. a-f. pl. XXXII-III.



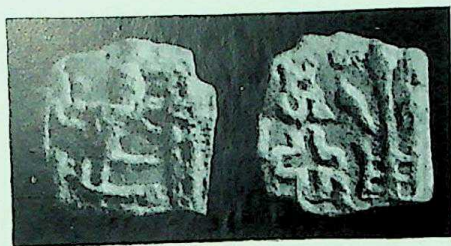
23 (626 A)



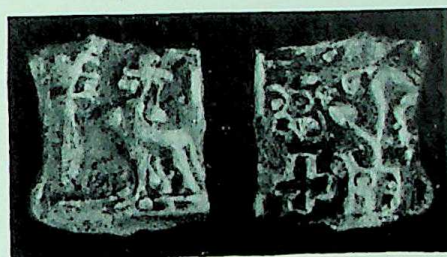
24 (932)



25 (57 B)



26 (57 C)



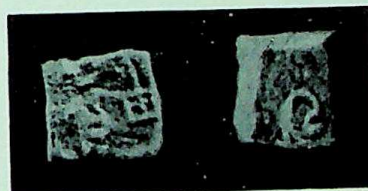
27 (57 D)



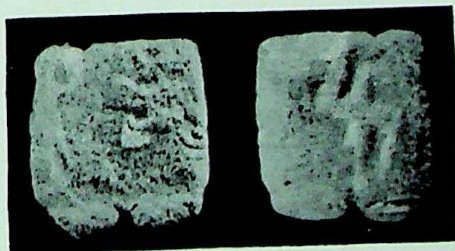
28 (57 E)



29 (1063a)



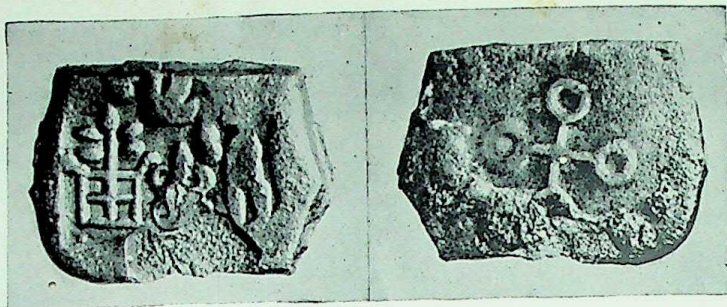
30 (971)



31 (626)

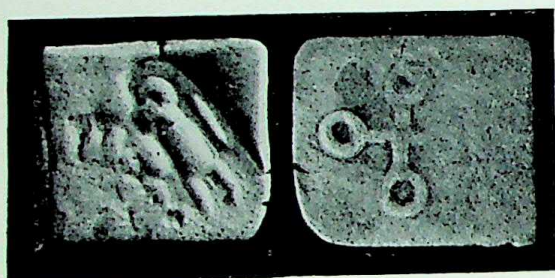


32 (490)



33 (120)

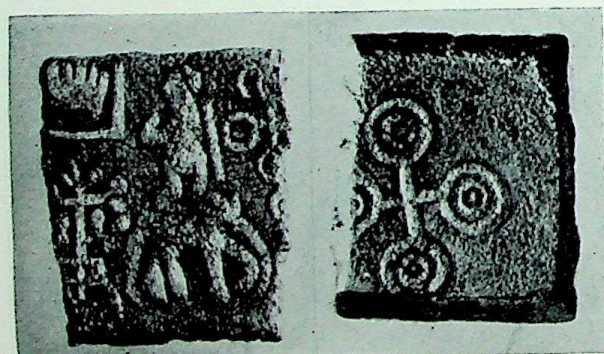
33 (120a)



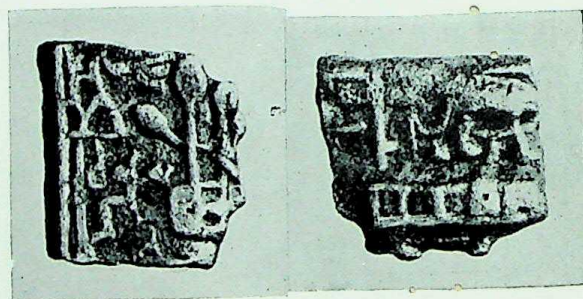
34 (57 J)



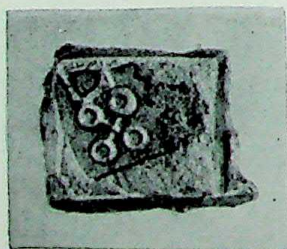
35 (57 G)



36 (30)



37 (82)



38 (5a)



40 (688)

COINS


Serial No.

25 No. 57B MHSR. Surface. Pl. XIV. 25.

Cop. : 14 mm. or 9/16 in. Wt. 21 grains or 1.511 gm.

Obv. : Horse facing to right, above this rear Mauryan *ma* 8 ; in his front a staff with some symbol ; below a raised border, probably a ladder-like symbol. Probably some traces of writing above the horse, which is now effaced.

Rev. : Tree in railing to right ; hill-with-crescent to left upper corner ;

below hollow cross 

Idf. : Probably a new Taxila sub-type. Cf. ALLAN, Taxila, pl. XXXIII, 12-15 ; pl. XXXIV, 4-5 ; and pl. XXXV, 14-15, 16.

26 No. 57C MHSR. Surface. Pl. XIV. 26.

Cop. : 10 mm. or 7/16 in. Wt. 30 grains

Obv. : Elephant facing to left ; in front a staff (or a palm tree), above three letters or symbols, of which the middle is certainly—8 ; below "ladder".

Rev. : Tree in railing to right ; hill-with-crescent to left in left upper corner ; below hollow cross.

Idf. : A new Taxila sub-type. See above No. 57B.

27 No. 57D MHSR. Surface. Pl. XIV. 27.

Cop. : Square. 12 mm. or $\frac{1}{2}$ in. Wt. 31 grains or 2.050 gm.

Obv. : Elephant facing left in front a "palm" tree, above svastika ; below "ladder".

Rev. : Tree in railing ; probably crescent-on-hill, or Six-armed symbol, hollow cross.

Idf. : A new Taxila sub-type.

28 No. 57E MHSR. Surface. Pl. XIV. 28.

Cop. : 10 mm. or 7/16 inch. Wt. 14 grains or 0.922 gm.

Obv. : Elephant facing left, facing probably a staff ; above a svastika.

Rev. : Tree in railing, crescent-on-hill and cross.


Idf. : A new Taxila sub-type.

B. Ujjayini

29 No. 1063a MHSR. II. Tr. II. B (12). Depth. 27 ft. 8 in. Pl. XIV. 29.







Cop. : Size: Rectangular 14 × 12 mm. Wt. 2.217 gm.

Obv. : Not legible.

Rev. : Ujjain Symbol 

Idf. : A type of Ujjayini Cast Uninscribed (?) Coins.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- Serial No.
30 No. 971. MHSR. II. Tr. II. A(12), Depth 29 ft. Pl. XIV. 30.
- Cop. : Size : Square 7 mm. Wt. 0.634 gm.
Obv. : (Tree) in railing to right, the rest is blurred.
Rev. : Ujjain Symbol.
Idf. : One of the Ujjayini types, Cf. ALLAN, Class I, var. d, Text, p. 243. pl. XXXVII, 17.
- 31 No. 626 MHSR. II. Tr. II. A(5), Depth 19 ft. 10 in. Pl. XIV. 31.
- Cop. : Size : Square 12 mm. Wt. 1.366 gm.
Obv. : Blurred, but probably an 8-armed symbol  on top right corner and one or two other symbols.
Rev. : Svastika 
Idf. : Probably a Ujjayini type.
Cf. ALLAN, Ujjayini Class 3, var. d, p. 254-55. pl. XIX, 5 and 6, where the observe has the 8-armed and other symbols and the reverse a svastika.
- 32 No. 490 MHSR. II. (4). Pl. XIV. 32.
- Cop. : Size : Rectangular 18 × 11 mm. Wt. 1.386 gm.
Obv. : Blurred.
Rev. : Ujjain symbol, with probably svastikas in between its arms.
- 33 No. 120 MHSR. I. Surface. Pl. XV. 33.
- Cop. : 21 mm. × 15 mm. or 16/13 in. × 5/8 in. Wt. 48 grains or 3.121 gm.
Obv. : Tree in railing to left., Taurine symbol , partly broken and effaced in the middle. Mauryan *ma* 8, effaced and looking like a man, or perhaps a man effaced. Above the spokes of an 6-or 8-armed symbol.
Rev. : Ujjain symbol 
Idf. : Probably a new sub-type in Ujjayini coins, Class I, var. i. ALLAN, p. 244, pl. XXXVI, 10.
- 34 No. 57J MHSR. (Shaikh's Collection). Pl. XV. 34.
- Cop. : 15 mm. × 14 mm. or 5/8 in. × 3/8 in. Wt. 39 grains.
Obv. : Man (or deity) with a helmet, having a short half-raised staff in his left hand, facing right. Faint traces of other symbols, of which taurine or a symbol like  in left bottom.
Rev. : Almost effaced and faint traces of 
Idf. : Probably a new sub-type of Ujjayini coin of Class 2, var. a or var. g. ALLAN, pp. 247-48; See also JNSI. II (1940), pp. 81-82.

COINS

Serial No.

35 No. 57G MHSR. V. (Mrs. Sankalia's Collection). Pl. XV. 35.

Cop. : Square : 18 mm. or $\frac{3}{4}$ in. Wt. 41 grains or 2.684 gm.

Obv. : Traces of the Sun, over stamped with the six or eight-armed symbol; above a man holding a staff in his right hand, above traces of an Ujjain symbol and tree in railing.


Rev. : Ujjain symbol and ∇ perhaps accidental.

Idf. : Either a variety of Ujjayini Coin. Cf. ALLAN, Class 2, var. k, p. 250 pl. XXXVII, 19-21, or a Punch-marked Coin.

36 No. 30 MHSR. I. Surface. Pl. XV. 36.

Cop. : Rect. : 19-20 \times 17-20 mm. $\frac{3}{8} \times \frac{5}{8}$ in. Wt. 126 grs. or 8.253 gm.

Obv. : Tree in railing to left. Elephant-like animal walking to right, Ujjain symbol; Man with staff in his left hand; in the top left corner within rectangle an effaced taurine, looking like a crown or a hand.

Rev. : Ujjain symbol 

Idf. : Perhaps a new sub-type, more elaborate than any of the Ujjayini types. ALLAN, Class 6, var. b, d. pl. XXXVI, 9, 10.

37 No. 82 MHSR. MD. 1. Surface. Pl. XV. 37.


Cop. : Rect.: 15 \times 12 mm. or $\frac{5}{8} \times \frac{9}{16}$ in. Wt. 30 grs. or 2.003 gm.

Obv. : Tree in railing on right, crescent-on-hill on top left, hollow cross below, and traces of a raised border or ladder. An animal-like symbol in between on lower left corner, but much effaced now.

Rev. : Ladder or railing on left. An animal with long tail or neck on right, a symbol with straight stick-like object on left.

Idf. : Probably Ujjayini type, Class 6, var. b, Cf. ALLAN, pl. XXXVI, 9-10.

38 No. 5a NVT. II, Surface. Pl. XV. 38.

Cop. : (broken). 12 \times 10 mm. or $\frac{1}{2} \times \frac{7}{16}$ in. Wt. 33 grs. or 2.211 gm.Obv. : Ujjain symbol  very delicately incised in the original die, and traces of $\frac{\nabla}{\text{I}}$.

Rev. : Blank.



Idf. : Probably a Ujjayini type, Cf. ALLAN, Class 4, var. d, p. 257, pl. XXXVII, 8, which has in addition a tree in railing and a standing female figure, and river with fishes below. The reverse is plain.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI


Serial No.

39 No. 83B MHSR. Surface (Shaikh's Collection). Not Illustrated.

Cop. : Square : 12 mm. or 7/16. in. Wt. 19 grains.

Obv. :  8-armed symbol (very much blurred).Rev. :  Svastika with taurines in angles (very much blurred)


(Not illustrated).

Idf. : Cf. Class 3, variety h, of Ujjayini, ALLAN, p. 255, though Nos. 94 to 97 have a  besides the 8-armed symbol, and two svastikas with taurine on the reverse.

40 No. 688 MHSR. II. Tr. II c (5). Depth 12 ft. 3 in. Pl. XV. 40.

Cop. : Corner chipped off. Square 18 x 16 mm. Wt. 5.123 gm.

Obv. : Slightly blurred, but we may see a tree (in railing), and an elephant-like animal facing right in the centre.


Rev. : Ujjain symbol with Mauryan *ma* 8 in circles and crescent-on-hillin opposite corners. 

Idf. : Probably a new sub-type of Ujjayini type, Class 6, var. b. which has elephant to right, before tree in railing 8-and 6-armed symbols, and Ujjain symbols in circles. But our coin has in addition crescent-on-hill, and other symbols. Cf. ALLAN, Text p. 261, pl. XXXVI, 6-9.

41 No. 139 MHSR. I. Tr. I. B (4). Pl. XVI. 41.

Cop. : Rect. 27 x 18 mm. Wt. 9.025 gm.

Obv. : Tree in railing to right, a horse or camel-like animal facing left ; below his legs part of six-armed symbol, two other symbols, perhaps a svastika and a tree on top left.

Rev. : An Ujjain symbol with  in angles.

Idf. : Probably a new sub-type in Ujjayini, Class I, var. d. Cf. ALLAN, Text, p. 244, pl. XXXVII, 1.

42 No. 120A NVT. II. (Surface ?). Pl. XVI. 42.

Cop. : Square : 10 mm. or 3/8 in. Wt. 20 grains or 1.315 gm.

Obv. : An animal, bull, but more probably a dog, or dog-like animal, prancing, with front legs fully stretched forward, the hind slightly taken back, and bent, and the tail fully thrown back above the back. A horn-like thing over the head.

Rev. : Ujjain symbol (partial) with pellets in each circle, and taurine symbol, on either side of one of the circles.

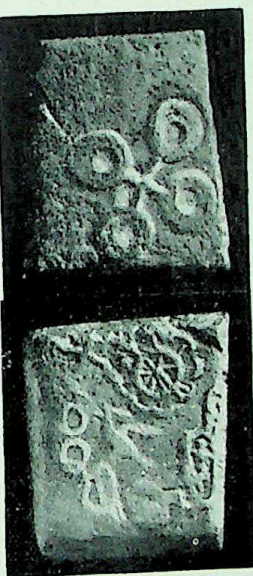
Idf. : Probably one of the Ujjayini variety of coins though no exact parallel found in ALLAN.



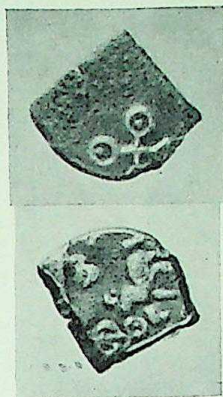
51 (57 A)



50 (57 K)



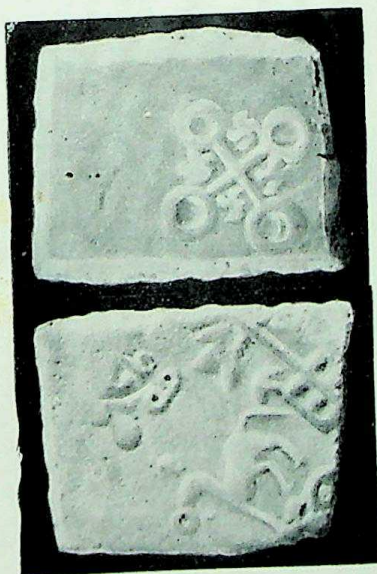
44 (57 F)



43 (83)



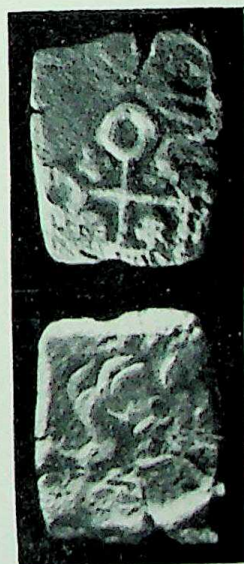
46 (83 C)



41 (139)



42 (120 A)



45 (57 H)

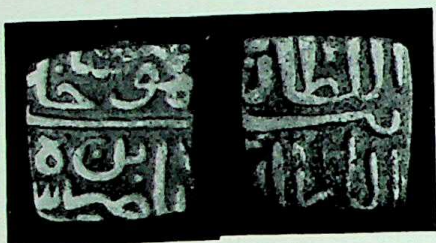
Tribal (Ujjayini and Mahisati ?) Cast Copper Coins [2/1] (See pp. 76-78)



52



53



65



66



67



68



75



72



73

COINS

Serial No.

43 No. 83 MHSR. I. Surface. Pl. XVI. 83.

Cop. : Originally round, now almost one-fourth of the original.
Wt. 11 grains.

Obv. : Prancing horse on right, facing probably a tree (in railing) or a taurine on left; above horse on right part of a taurine-like symbol.

Rev. : Ujjain symbol.

Idf. : Probably a new variety of the Ujjayini type of coins.

44 No. 57F MHSR. V. Surface. (Mrs. Sankalia's Collection). Pl. XVI. 44.

Cop. : Rect. : 17 mm. \times 13 mm. or 10/16 in \times 9/16 in. Wt. 87 grs. or 5.608 gm.

Obv. : Very faint traces of a six-armed symbol or horse or some animal to left before (tree in railing, not clearly seen). 8-armed symbol with an inner circle in right bottom; below river with fishes.

Rev. : Ujjain symbol with crosses.

Idf. : Probably identical with Ujjayini, Class 6, var. b. ALLAN, p. 261, pl. XXXVI.

45 No. 57H MHSR. V. Surface (Mrs. Sankalia's Collection). Pl. XVI. 45.

Cop. : 14 mm. \times 12 mm. or 5/8 in. \times 1/2 in. Wt. 33 grs. or 2.161 gm.

Obv. : 6 or 8-armed symbol to left top corner; fish-like symbol below; horse facing left. Tree in railing (?).

Rev. : Ujjain symbol with effaced Mauryan 8 *ma* in the angles.

Idf. : Probably a new sub-type of Ujjayini type. Class 6, var. b, where there is an elephant instead of a horse. Cf. ALLAN, p. 261, pl. XXXVI, 9.

46 No. 83C MHSR. MD. V. Surface. (Mrs. Sankalia's Collection). Pl. XVI. 46. This coin is identical with that of Shri. WAKANKAR's No. 784. (Below Serial No. 48.)

Cop. : 24 mm. \times 15 mm. or 1 in \times 5/8 in. Wt. 125 grs. or 8.097 gms.

Obv. : Tree in railing to right. Horse facing right, below river with fish. Ujjain symbol. However, what appears to Shri WAKANKAR as letters *ha*, *sa*, *ta* are indeed the symbols 8 𑀘 8 Cf. ALLAN, Taxila type, pl. XXXI, 13-16. Probably a new coin, for there is none of this type in ALLAN.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Serial No.

47 Coin No. 783 MHSR. MD. I. (Jvaleshvar). 3-7-54. (Wakankar Collection).¹

Cop. : 6 in × 5.5 in. Wt. 74.5 grains.

Obv. : Standing male figure, with halo behind head and with arms stretched, right hand lowered and left raised up, indistinct in either of them. On right a pellet with four crescents around, surmounted by an indistinct symbol. Legend below : *Mahisati*.²

Rev. : Indistinct symbols.

48 Coin No. 784 MHSR. V. (Dhanbedi). 3-7-54. (Wakankar Collection). (Cf. No. 83c, Serial No. 46 above).

Cop. : Rectangular. Wt. 93.3 grains.

Obv. : Tree in railing to right. Horse facing right, below river with fish. Ujjain symbol. Probably an inscription in three letters reading from left to right *Ma (ha) sa ta*.

Rev. : Ujjain symbol, with some other indistinct symbol.

49 No. NVT. II. Tr. iii. A. (4).

Cop. : 0.8 in. × 0.48 in. Wt. 43.5 grains.

Obv. : Four symbols, each in a separate incuse ; on left standing human figure with right hand lowered down and left raised up, with an indistinct object in either ; row of dots around head ; wearing long boots ; in middle, dot with four crescents around, above a three-arched *caitya* ; on right tree in railing, partly cut at the edge.

Rev. : Quite smooth, except for a thin oblique line.

Dr. TRIVEDI thinks³ that the coin is similar to the one from Jvaleshvar mound (No. 783, of WAKANKAR's Collection and might have had a legend *Ma (Ma) hisati*). But this is most unlikely ; first the sizes and weights differ considerably. Secondly, even the symbols are not identical.

50 No. 57K MHSR. Surface. Pl. XVI. 50.

Cop. : Square (broken), 10 mm. or 5/16 in. Wt. 10 grains.

Obv. : Horse (?)

Rev. : Ujjain symbol.

1. I am indeed thankful to Shri. V. S. WAKANKAR for kindly supplying details about these two coins in his letter dated 12-3-1957.

2. Dr. TRIVEDI identified this as a coin of *Māhiṣmatī* (Mahisati) *JNSI*. XVII (1955), p. 94.

3. *JNSI*. XVII (1955), p. 96.

COINS

Serial No.

51 No. 57A MHSR. (Shaikh's Collection). Pl. XVI, 51.

Cop. : Rectangular. : 22 mm. × 18 mm. or 15/16 in. × 12/16 in.
Wt. 98 grains. or 6.383 gm.

Obv. : Elephant with uplifted trunk facing left and before it on lower left corner, a symbol described as 'hand' '||||'; below between two parallel lines fishes or Mauryan *ma* shown horizontally. Above traces of a legend, of which *jñō* is very clear.

Rev. : Ujjain symbol with a pellet within each circle.

Idf. : MIRASHI, *JNSI*. XIII, ii. p. 138, pl. VI, 15 refers to a coin which may be compared with ours. But this is square and does not bear the words *Rājñō*. Hence ours seems to be a new Sātavāhana type from Central India.⁴

Later Coins

Some thirty copper coins were collected from the surface by Mrs. Sarla SANKALIA and Shaikh Zainuddin ANSARI. After these were cleaned, they were sent to Shri Parmeshwari Lal GUPTA, Numismatist, Prince of Wales MUSEUM, Bombay, for identification and report. Shri GUPTA's report is reproduced here without adding any further details, because the coins of similar type are known and published. These coins confirm once again, if any confirmation was necessary, Maheshwar's contact in some way or another with the famous ruling families of Northern and Central India between the 14th and 19th centuries. There is also a coin of Firoz Shah Bahmani of Gulbarga.

(A) Shaikh's Collection

52. Ghiasuddin Tughlaq I (1320-1325 A.D.). Pl. XVII. 52

Obverse سلطان
محمد بن تغلق
دالین

Reverse (In double Circle) شاه
تغلق

Cf. *D.M.C.*, Coin 467.

4. Cf. ALLAN, *BMC*, Class 7, p. 262, pl. XXXVII, 15. Also *Ibid*, pl. XLIV, 23 where the elephant resembles that on our coin, but no traces of a legend are seen.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Serial No.

53. Hoshang Shāh of Mālwa. (1405-1431 A.D.). Pl. XVII. 53

Obverse سلطان
هوشنگ
شاه

Reverse دارالملک
شادیا باد

Cf. *History and Coinage of Malwa*, Coin 3.

53A. Muzaffar III of Gujarat (1560-1573 ; 1583-84 A.D.). Not illustrated.

Obverse موص
ر

Reverse ۹۶,
شاه
مظفر

Cf. *P.W.M.C., Sultans of Gujarat*, Coin 850.

54. Akbar. (Mughal Emperor) (1556-1605 A.D.). Not illustrated.

Obverse ملوک

Reverse اکبر
سنة

56-60. Mewar—Udaipur. Triśūlā Paisā. Issued from Chitor. Not illustrated.

Obverse—Fragments of Triśūlā design.

Reverse—Fragments of different Triśūlā design.

Cf. Webb's *Currencies of Hindu States of Rajputana*, p. 14.

61-62. Worn and useless pieces. Not illustrated.

(B) Mrs. Sankalia's Collection

63. Worn. Probably of Firoz Shāh Tughlaq (1351-88 A.D.).

64. Hoshang Shāh of Mālwa.
Similar as 53.

COINS

Serial No.

65. Mahmud II of Mālwa (1510-1530 A.D.). Pl. XVII. 65 .

Obverse
 محمد شاه
 خلیفہ
 بن
 احمد شاه

Reverse
 سلطان
 بن
 السلطان

66. Muhammad Adil of Suri dynasty (issued under the governorship of Bāz Bahādur). Pl. XVII. 66

Obverse
 محمد [شاه]
 المنظر
 ابوالہ
 خلد ملک

Reverse. Legend not decipherable, but date as 963 (?)

67. Mahmud III of Gujarat (1536-1553 A.D.). Pl. XVII. 67

Obverse
 الدنيا
 ناصر
 الدين
 الممان

Reverse
 سلطان
 لطيف شاه
 بن
 محمود شاه

Cf. P.W.M.C., *Sultans of Gujarat*, Coin 607.

68. Firoz Shāh Bahmanī of Gulbarga (1397-1422 A.D.). Pl. XVII. 68

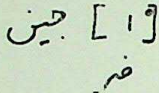
Obverse
 فیروز
 شاه محمد

Reverse
 راجی
 افغان
 سمیعی

EXCAVATIONS AT MAHESHWAR AND NAVDATODI


Serial No. 69-70. Shāhjahān (Mughal), Ujjain mint. Not illustrated.


Obverse  partly impressed.

Reverse  only parts.


Cf *I.M.C.* III, Pl. XI, 1113.

71. Some later Mughal (unidentifiable). Not illustrated.

Obverse 


Reverse 

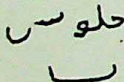

72. Maratha coin; Chhatrapati type. Pl. XVII. 72

Obverse  (Chha)

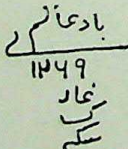
Reverse illegible.

78. Probably Scindia. Pl. XVII. 73

Obverse 

Reverse  Branch of tree in 

74-76. Tukoji Rao of Indore (1844-1886 A.D.). Half anna. Pl. XVI. 75

Obverse  Lotus Bud on left

Reverse Bull to left reclining, facing līngam, legends above and below off the flan.

77. Mewar—Udaipur. Chitrakūta mint. Not illustrated.
Obverse and Reverse. Fragmentary traces of legends.

Cf *I.M.C.*, IV, Pl. XVIII, 6.

78-80. Useless—undecipherable. Not illustrated.

POTTERY OF PERIOD III

VI

POTTERY OF PERIOD III

Stratigraphically and stylistically the excavated pottery falls into two large groups :

- I. Proto-Historic or Chalcolithic.
- II. Historic or Iron Age with various sub-divisions.

In fabric, colour and to a great extent in shape, the pottery of Group I or Period III is different from that of the later periods. As at Nasik, it does not occur quite separately from the later pottery. At Navdatoli there is a slight admixture in the top layers, as these are comparatively thin. While in the only trench at Maheshwar, this mixture was noticed at the junction of Period III and IV. There is no trace of it in the thick deposits of Period IV—VI in Trench II, and Trench I at MHSR.

Arrangement. Since the yield of Period III pottery was very large at NVT, and comparatively small at MHSR, though identical in every way with the former, the NVT pottery is made the basis of study.¹

1. It may be mentioned here that all the pottery was collected and counted in the pottery yard. After washing, those sherds which indicated the shape or design were kept and all these were numbered. The field statistics of the entire pottery are as follows :—

The method of counting potsherds has been referred to when dealing with the pottery of Periods IV to VII (See p. 137).

For instance, the actual totals of all the various fabrics in layer 4 of Tr. I on Md. I are as follows :—

Sq. s.	Rd. ware.	Coarse Bl	Bl-and-Red.	Bl-on-Red.	Bl-on-Cream.	Grey-on-Bl.
A	2240	135	25	263	6	—
B	2280	109	40	300	12	—
C	1398	96	10	300	—	—
D	1650	40	5	200	—	1
E	2010	80	10	302	15	—
F	1244	82	11	103	—	—
G	1453	80	5	125	18	3
H	1600	105	14	146	23	38
	13875	727	120	1739	74	42

Counting thus the yield of every fabric in every layer, the following percentages

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

The pottery of Period III is predominantly red and painted in black, using the term "red" in a very broad sense.

There are, however, only two or three sherds where the painting is in white or red over a fine red or matt surface.

In addition to these, there is a very small percentage of :—

- (B) Black-and-Red ware with paintings in white.
- (C) White-slipped ware with paintings in black or vermilion black.
- (D) Greyish Black Ware.
- (E) Incised (on coarse red and black).
- (F) Very coarse Red and Black Ware.
- (G) Tan Ware—rare or unique, if not a part of (B).

Excepting the group E and a few solitary instances in others, all the rest are wheel-made, and slipped and fired. Within each group, however, differences exist with regard to the colour of slip, and fabric,—meaning thereby the making of the clay, firing and general finish.

(A) Painted Red Ware

General Characteristics.

Two clear, well-marked divisions can be discerned in this group.

(a) This is most common. In it the slip varies from light yellowish brown to dark red. The surfaces are generally matt and often worn out. This exposes the inner surface, and shows besides grass and sand, including particles of lime used as binding material. The core, especially in large vessels, is blackish. This as well as the worn out surface might be due to insufficient firing. It seems to have been made on a slow wheel as the striations are not close and often not easily visible. The surface is further decorated with various designs in black or light reddish black. These were

could be had :

Black-on-red—

Layers first, total in brackets :—

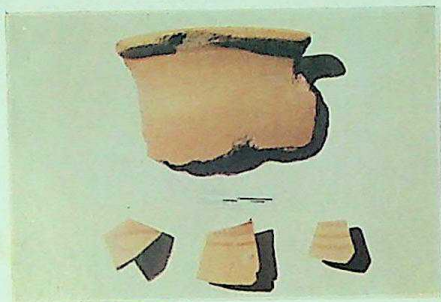
1, (1206) ; 2, (1490) ; 3, (743) ; 4, (120) ; 5, (42) ; 6, (46) ; 7, (34) ; 8, (8).

Percentage of painted pottery (all types) to the total in each layer : (NVT. I. i).

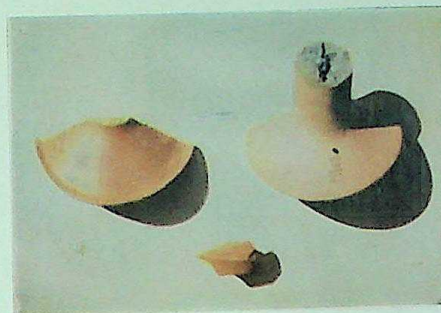
1-1.36 ; 2-8.63 ; 3-6.45 ; 4-12.14 ; 5-9.78 ; 6-10.11 ; 7-25.73 ; 8-20.91.

Painted black-on-red ware 10.45% of the total collection, and 89.74% of the painted pottery.

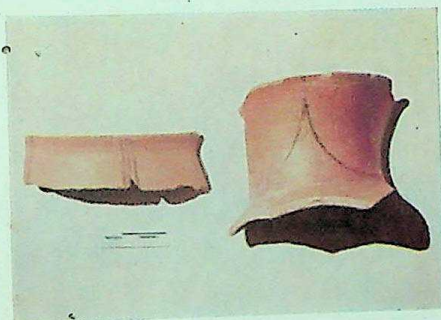
PLATE A



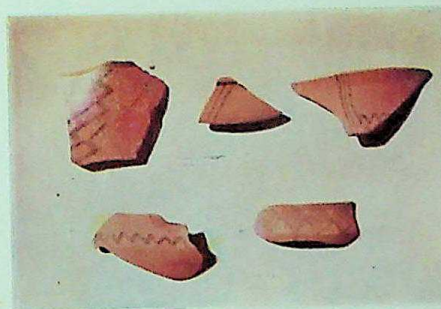
1



2



3



4

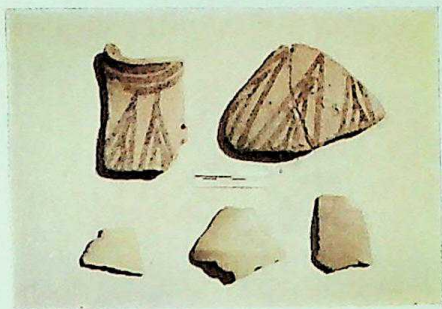
1, 2, 3 NVT or Malwa Black-on-Red ware
4 Jorwe ware (See p. 84)

PLATE B

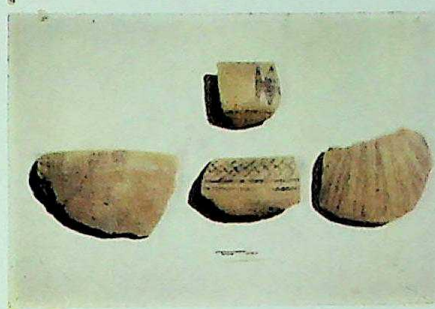


1, 2, 3 NVT or Malwa Black-on-Red ware: one in 3
has White-on-Red (See p. 84)

PLATE C



1



2



3



4

- 1 Blackish Red-on-Buff
- 2 Black-on-Red
- 3 White-slipped ware
- 4 Black-and-Red with paintings in white,
Red-on-Black and Greyish ware (See p. 84)

POTTERY OF PERIOD III

painted with a brush, which though firm, shows uneven thickness of the point.

Within this division have also to be included the unpainted red ware, as it shares all the features of the painted red ware, and stratigraphically occurs in all the layers of Period III.

Two observations, however, might be made: First, that the slip of the large, heavy dish-on-stand or fruit-stands (See Figs. 26-29) is uniformly crimson red, though the surfaces show pin-holes. Secondly, there are a few sherds of what we have called OCP (orange coloured pottery)² or ochre washed ware. In these though the sherds belong to a sturdy, large vessel, the surfaces have a light yellowish-brownish appearance, which wears out, if rubbed. This is certainly not due to weathering (water rolled, etc.), but probably due to imperfect firing. Whatever the reasons, these recall similar ware from Nasik I. Even a few identical rim shapes have been noted. (See Fig. 6).

(b) This is a much smaller group, restricted to a very limited type of vessels (See Fig. 15-19, 22) and designs (See below), and stratigraphically confined to the top layers of Period III. The ware has fine fabric, often unslipped or having a reddish slip with matt surfaces, made on a fast wheel showing close wheel marks, and out of a uniformly well levigated clay. The core is orange red, at times snuff coloured, but never black, indicating uniform firing at a high temperature. The walls of the bowls are generally thin, but even when thick give a fine metallic sound. The designs in deep black consist of loops, interesting semi-circles and latticed parallelograms (Fig. 50. VIII).

In association with this ware are also found a few sherds of a ware wherein the slip is matt-brown, designs in light red or crimson black, and the inside though unslipped, has thin grooves at intervals. The clay is well levigated and well baked.

Since the former (a) was first found at Navdatoli, and then all over Malwa, it may be called the "NVT" or Malwa Painted Red Ware; the latter being identical with the Jorwe-Nevasa Period I³ might be designated "the Jorwe-Nevasa" Painted Red Ware. Its existence at NVT in the upper

2. SANKALIA, H. D. and DEO, S. B., *Excavations at Nasik*, p. 37.

3. It is also found at Karhad on the Krishna, Ite on the Bhima (Sholapur District) and Koregaon on the same river (Poona District).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

layers shows definite contact with or intrusion from the Godavari-Pravara valleys *via* the Tapi-Purna (where it occurs through Period I at Prakash).⁴

With regard to the shapes, the following types have been recorded in the Painted Red Ware (a).

1. Large Storage Jars (Figs. 1-3)
2. Narrow High-necked Vessels (full shape unknown) (Figs. 6-7)
3. Bowls (several types) (Figs. 11-20)
4. Dishes (Fig. 23)
5. Bowls and Dishes-on-stand. (Figs. 26-33)

The Painted Red Ware (b) has

1. Carinated Bowls. (Fig. 15, T. 19d, g.)
2. Broad-mouthed and Globular Vessels. (Fig. 3, T.3, Fig. 5, T.5e)
3. Basins (Fig. 22)

(B) Painted Black-and-Red Ware

This ware occurs in very small quantities, and seems to have been used for small vessels—certain types of bowls and cups—on special occasions. It was made on the inverted firing technique. Thus the tops or the upper half of the vessels are black and painted with designs in white and the bottom light brown or tan, but scarcely red.

(C) White-Slipped Painted Ware

This ware is also found in small numbers, generally in the lower layers. Though the white slip is a distinguishing feature, the fabric is not uniform in texture. The surfaces are generally matt with concretions in the clay, and overfired at times. But some specimens have a smooth, even polished surface with very thin walls. The shapes are more varied than in (B). In addition to a large number and varied types of bowls or cups, we have bowls and dishes-on-stand, a small vessel with comparatively high concave sides, carinated belly and rounded bottom,—exactly like a water vessel or *lotā*.

Though the bowls and cups have certain common types in the Painted Red Ware, it appears that the white-slipped ware was also for use on special occasions.

4. Based on the information kindly supplied by Shri. B. K. THAPAR, Superintendent, Department of Archaeology to whom we had sent a few sherds from Jorwe for comparison.

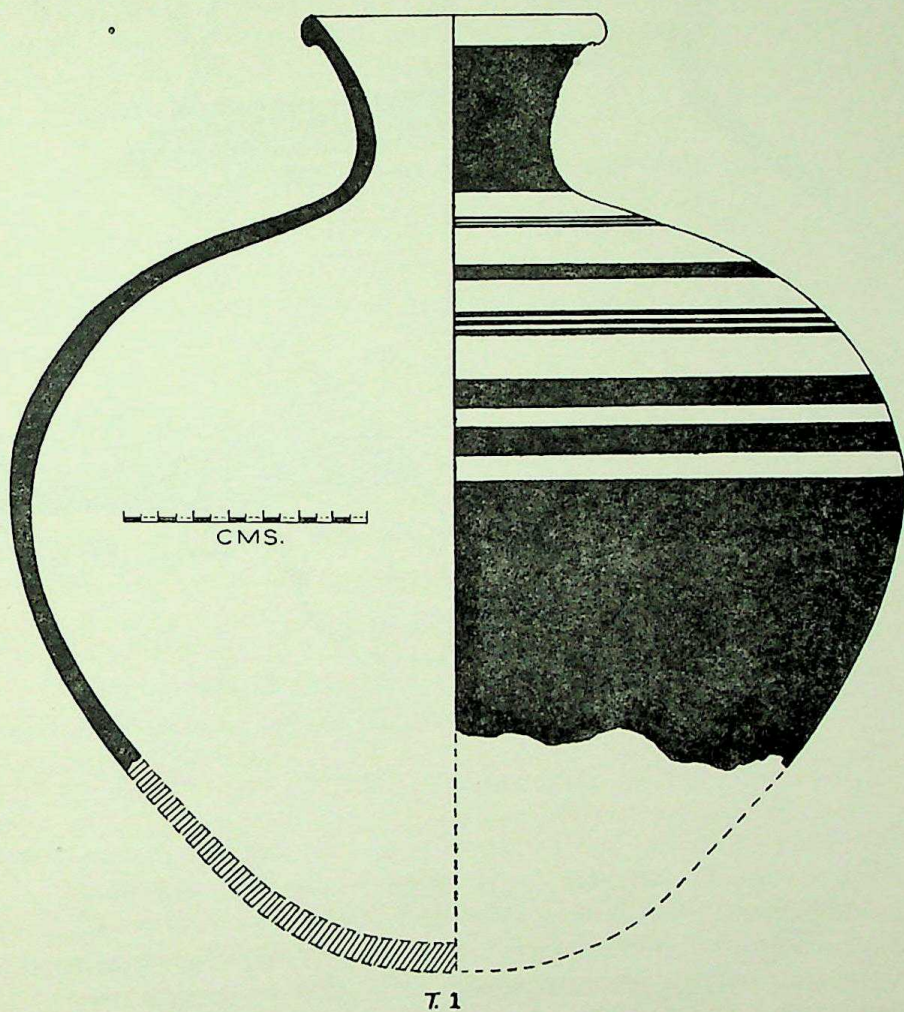


Fig. 1 Type I : Storage Jar, NVT. Period III (See p. 87)

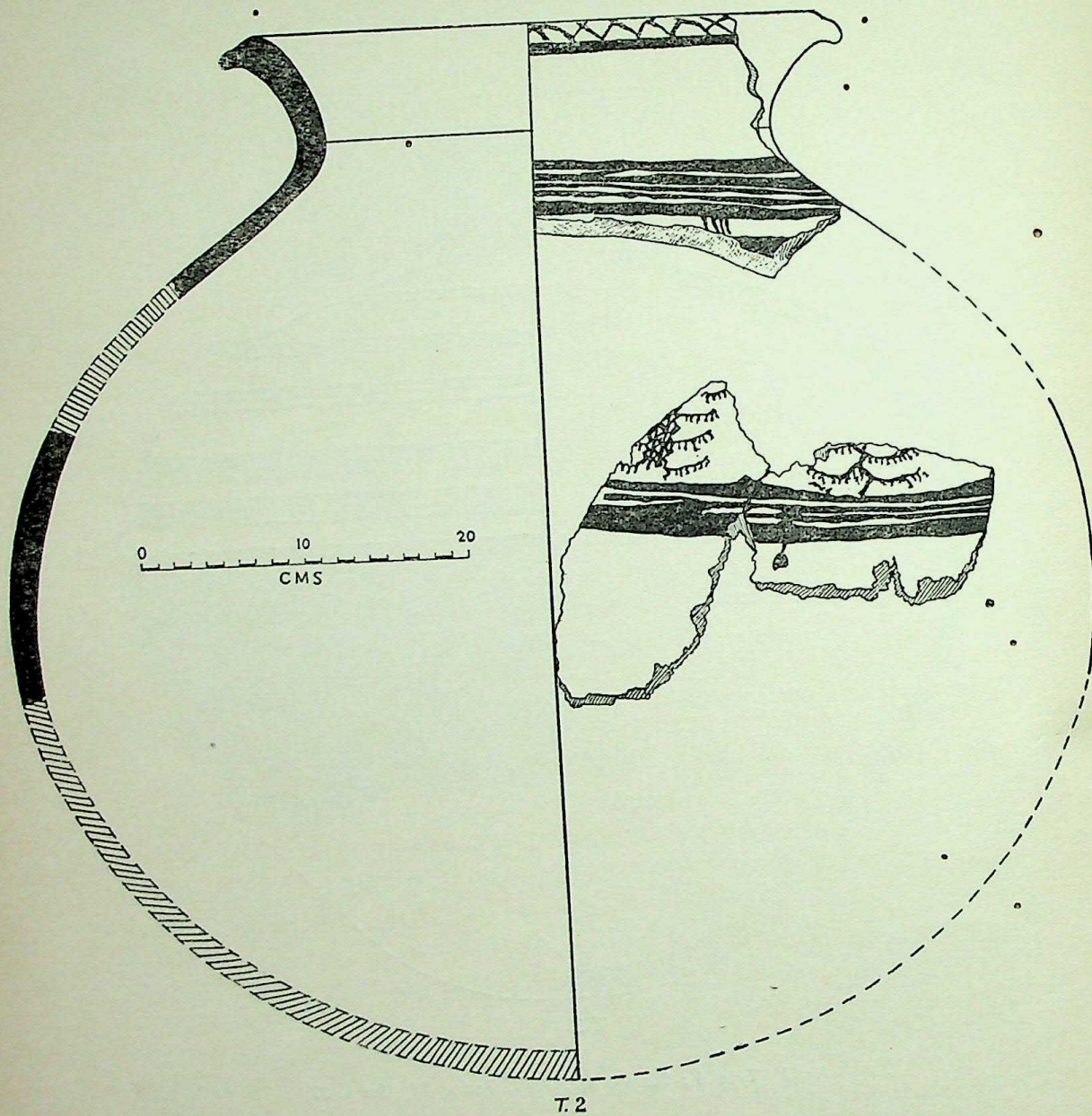


Fig. 2 Type 2 : Storage Jar, NVT. Period III. (See p. 88)

POTTERY OF PERIOD III

(D) Greyish Black Ware

Very few sherds of this ware—which has at least four sub-types—have been found. So the details are given later. What is important is its existence along with the Red Ware. Secondly, the fact that it exhibits a fairly good number of types, and thirdly that one or two of its types give us contact with a similar ware from the Deccan.

(E) Very Coarse Red and Black Ware

Though small in number, this ware by its finish, and peculiar type of vessels—indicates some definite and limited use in the Chalcolithic period. Similar sherds have been found all over Malwa and in the Deccan.

(F) Incised Ware

This ware, though again small in quantity, had a definite place in the life of the people. Incised decoration is generally confined to storage vessels, usually of a large size, but it is also found on some small vessels of a specialized type. The decoration is deep and fine, as it is at this period elsewhere.

(G) Tan Ware

Only two sherds have been found. If these are not parts of (B), we may regard them as rare or unique.

Fig. 1-2 (1—2)***Types 1-2 Storage Jars***

A number of sherds of large, thick-walled vessels were found. But only a few give an idea of the shapes. Even such large vessels were made of fine well levigated clay, on the wheel, and painted. These seem to be, as the figures suggest, generally short necked, with flaring rim, globular body. The exact shape of the base is unknown. No sherd with pointed base is so far found.

1. Sherds of a large vessel—probably for water—short, narrow neck, with out-turned, beaded and cut rim. Body globular but tapering at the base (of which the exact shape is unknown). Chocolate-coloured bands of varying thickness over the neck and body of a light brown slipped surface. Very fine, well levigated clay, fully baked and made on fast wheel, as shown by very regular and close striations. 3436. NVT. I. i. A (4).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

2. Sherds of a large vessel, short neck, bevelled out-turned edges with a groove on top, globular body, base perhaps rounded. Light black irregular circular bands round the neck and belly. In between groups of wavy vertical lines, as well as bands of triangles and arches or a row of arcs with short vertical strokes (as in half set sun). The top of the rim also painted with intersecting arcs. Red slip on both surfaces, but inner much worn out. Blackish core. Probably wheel-made. NVT. I. ii.

Fig. 3 (3—3f)

Type 3 Storage Jars

Rims and neck pieces of storage jars with (i) medium mouth, short neck, (ii) medium small mouth, slightly taller neck. Both have outgoing thickened or beaded and cut rim. Four specimens are painted, three have simple horizontal black band on the neck, while T.3 has vertically arranged groups of simple and wavy bands. Except one (No. 24247) which is worn out, all have fine well levigated clay, fully baked core, red slipped surfaces and signs of a fast wheel. In one (No. 11751) the slip is of dark chocolate colour.

3. Sherd with clubbed rim, with paintings and graffiti or incised wavy marks on the inside of the rim. NVT. surface.
- 3a. Sherd with clubbed rim, originally solidly painted black. 1713. NVT. I. i. F (2).
- 3b. Sherd, rim as in T.3, but thinner, probably unslipped, worn out surfaces. 24247. NVT. III. v. B (6).
- 3c. Sherd, more prominent clubbed rim, worn out chocolate slip. 11751. NVT. I. i. C (2).
- 3d. Sherd, thin, clubbed rim, very faint traces of painting. 14600. NVT. II. iii D (12).
- 3e. Sherd, as above, with faint traces of a reddish band round the neck. 8610. NVT. I. i. F (5).
- 3f. Sherd, high neck with everted rim, blackish band on the neck. 7287. NVT. I. i. G (4).

Fig. 4 (4-4e)

Type 4

Rims and shoulder portions of storage jars with broad mouth, short constricted neck and simple or at times bevelled, out-turned rim. The fabrics in larger vessels are very coarse, unslipped and unpainted, with blackish core/or even the whole of inside and perhaps hand-made. Excepting comparatively few vessels, though the slip might be absent, the clay and firing are excellent.

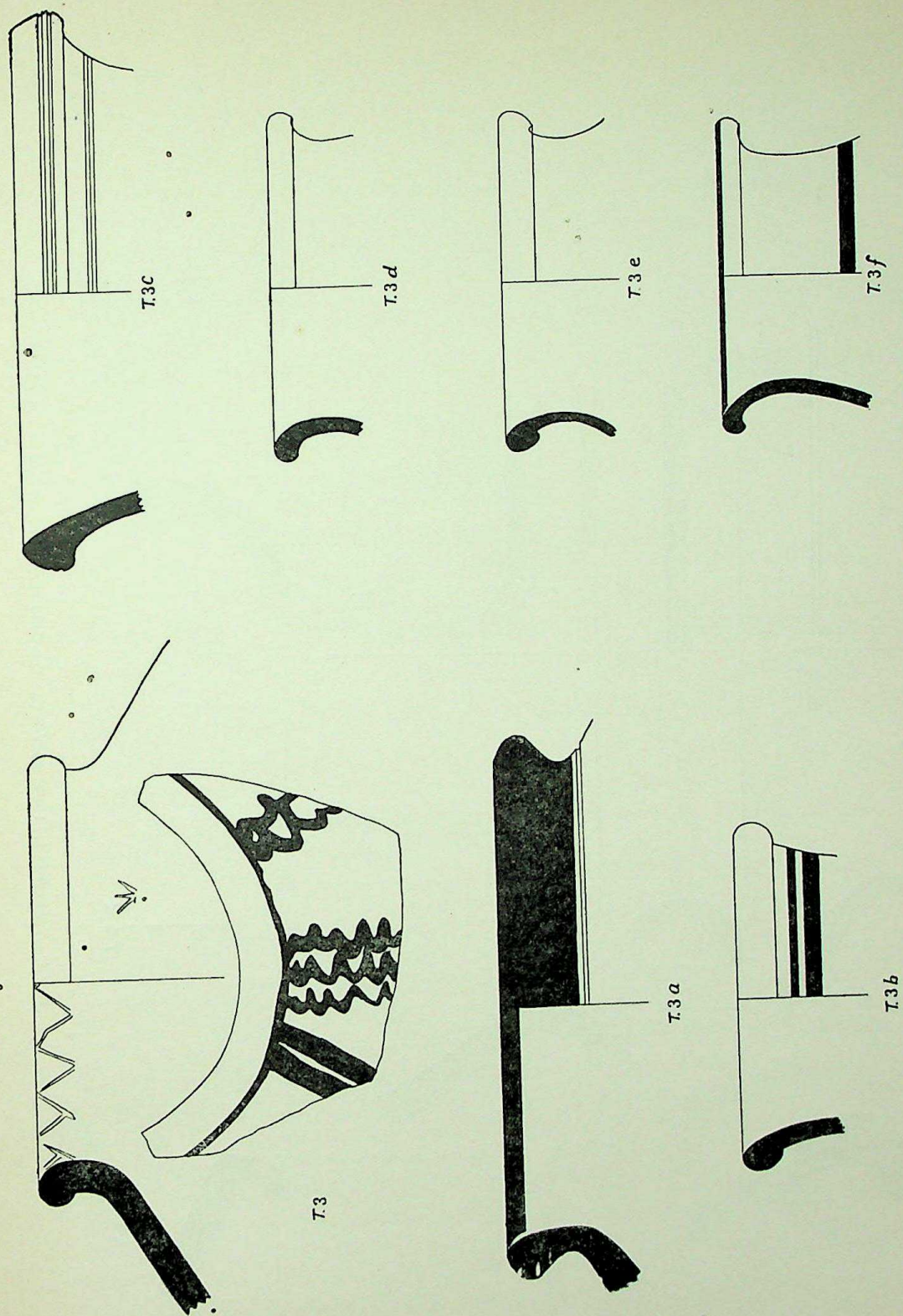


Fig. 3 Types 3-3f [4] : Storage Vessels, necks and rims, NVT. Period III. (See p. 88)

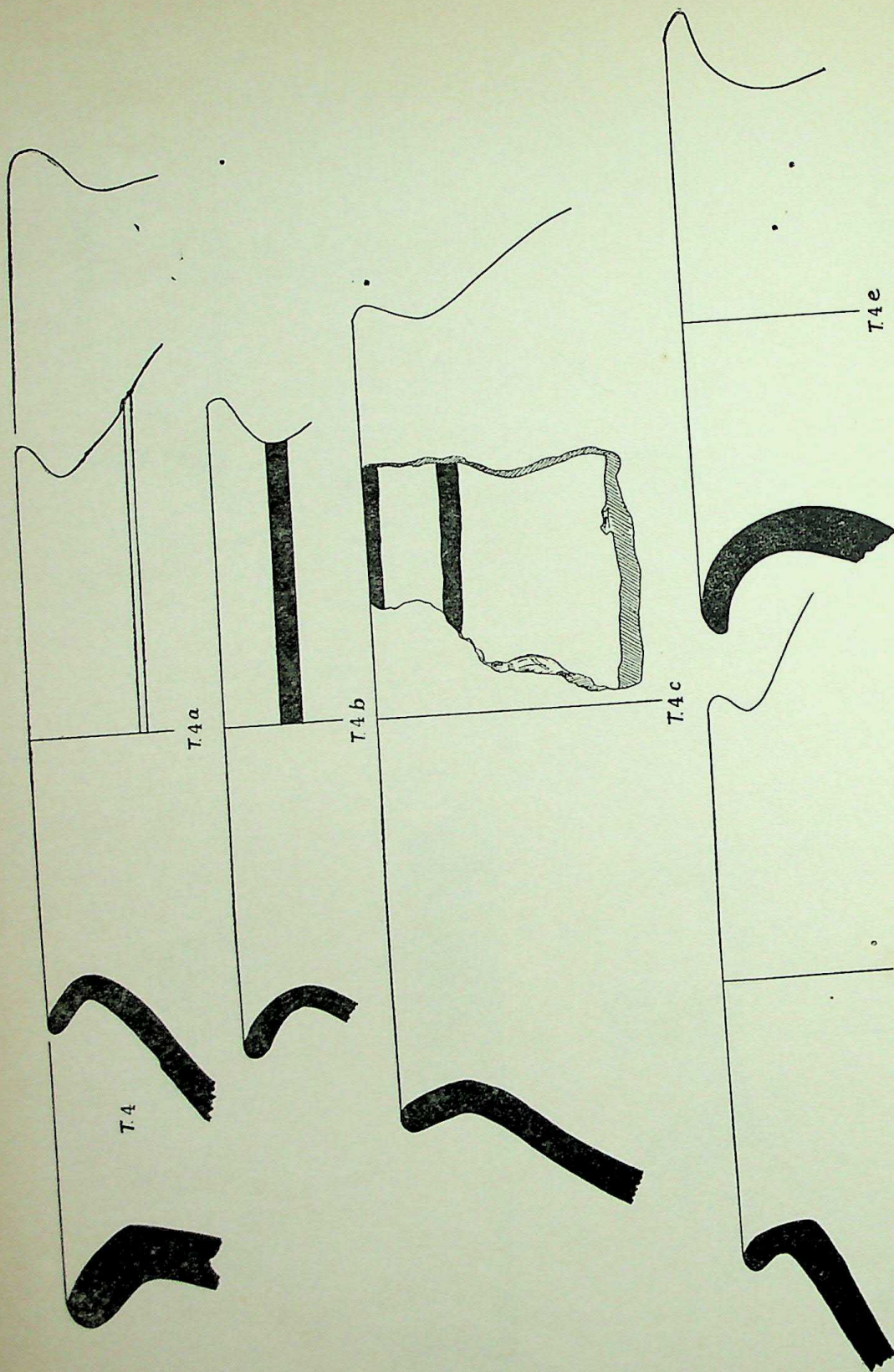


Fig. 4 Types 4-4e [1] : Storage Vessels, necks and rims, NVT. Period III. (See p. 98)

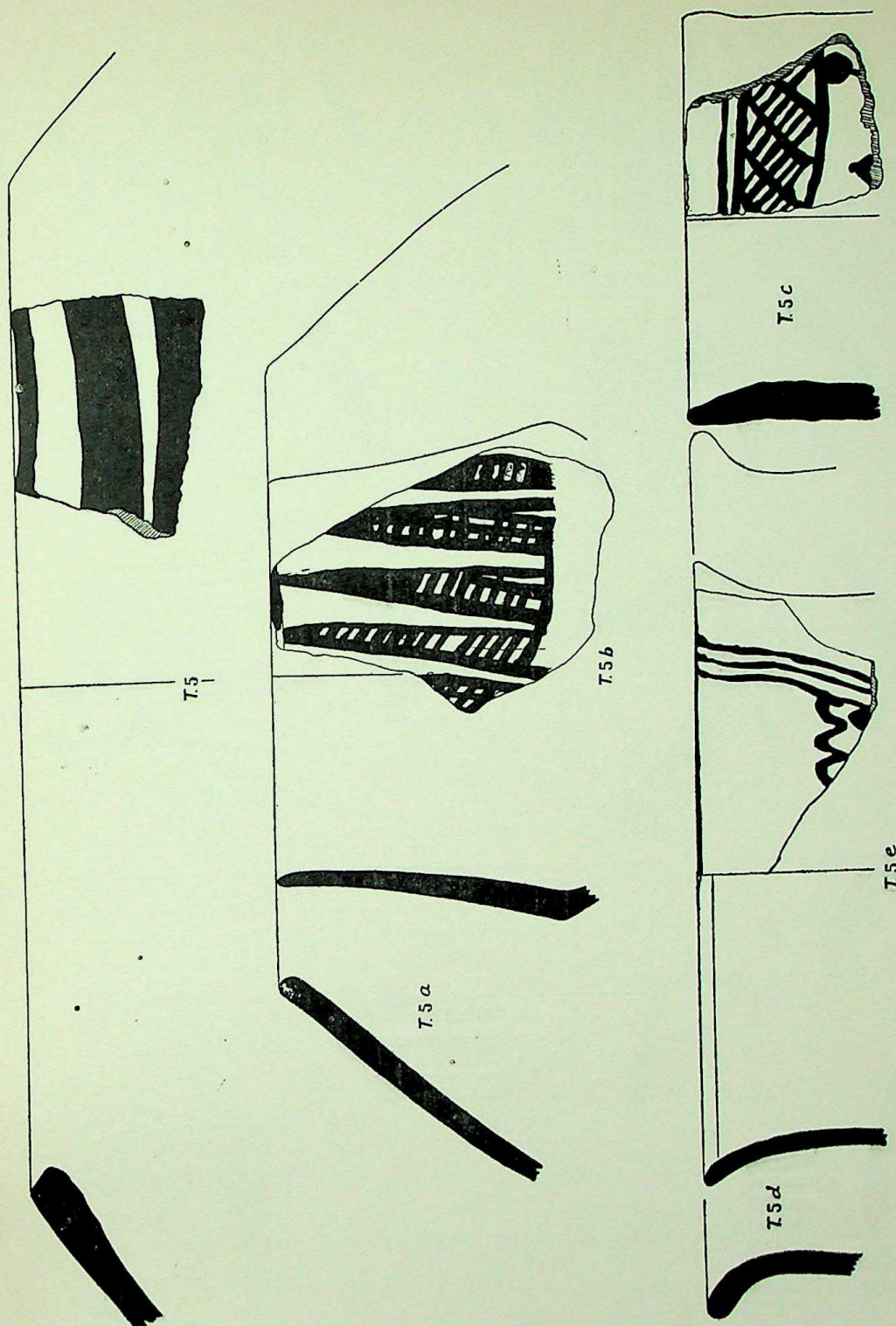


Fig. 5 Types 5-5e [f] : Large broad mouthed vessels, NVT. Period III. (See p. 89)

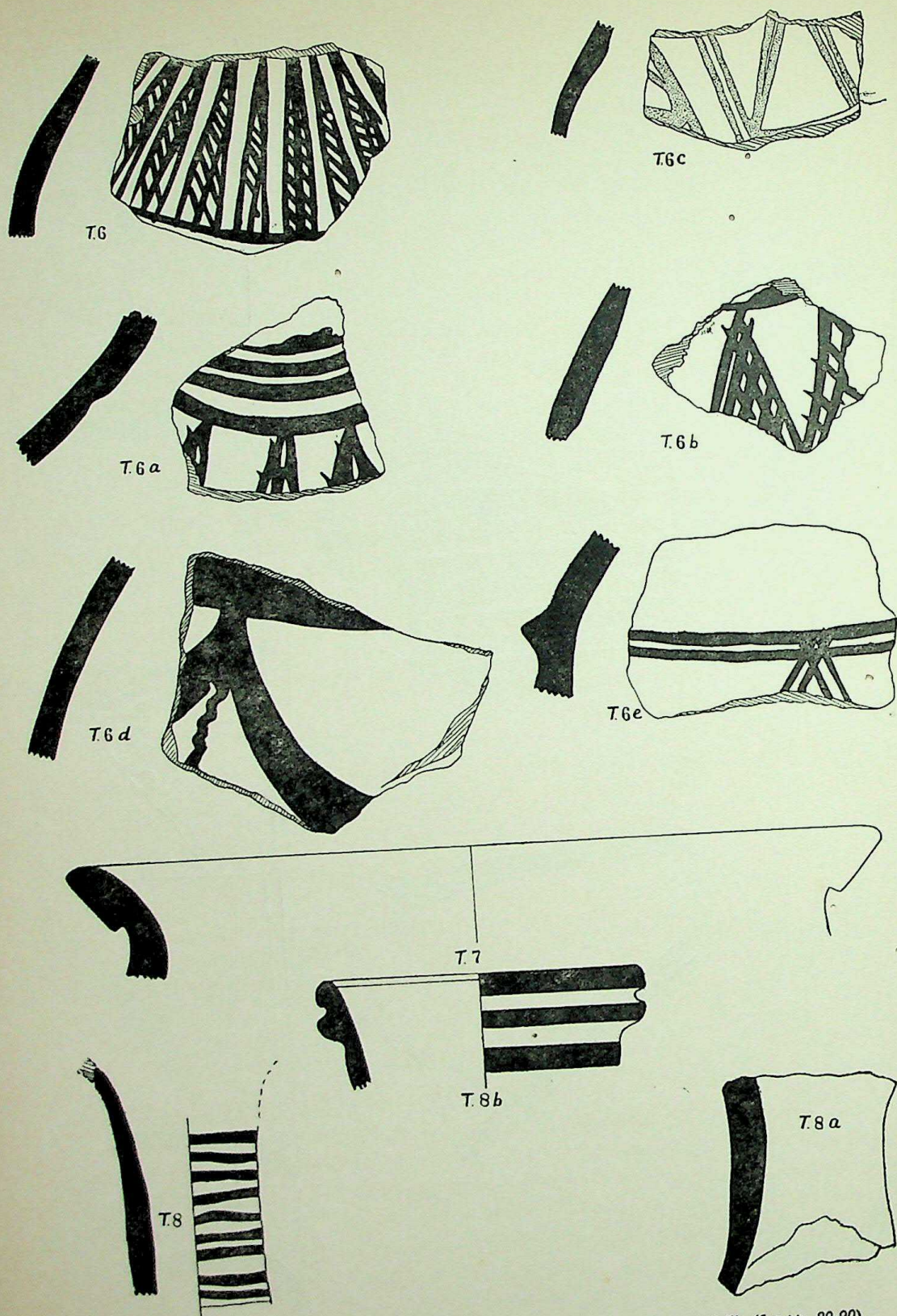


Fig. 6 Types 6-8b [1/2] : Globular and high necked vessels, NVT. Period III. (See pp. 89-90)

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4. Fragment, rim, constricted (angular) neck. Coarse red-slipped worn out surfaces. 230200. NVT. III. iv (Pit 2).
- 4a. Fragment, rim, as above, but thinner and fabric fine, with low ridge on the shoulder. 20500. NVT. III. iv. D (2).
- 4b. Fragment, rim, as above, but rounded and not angular. Thin black band round the neck. 23273. NVT. III. v. A (5).
- 4c. Fragment, rim out-turned but straight, worn out inside, black band round the neck. 8184. NVT. I. i. c (5).
- 4d. Fragment, very low, angular rim, very coarse surfaces, black inside. 2551. NVT. I. i. c (6).
- 4e. Fragment, rim, fully out-turned with bevelled edges. 24259. NVT. III. v. B (6).

Fig. 5 (5 to 5e)

Type 5

A miscellaneous group with (i) wide mouth and globular body, (ii) medium mouth, long tapering sides and angular belly, (iii) wide mouth with long, straight sides. Full shape unknown. The fabrics are generally good, that of some exceptionally fine, both from point of view of the clay and baking. The majority are slipped and painted, one in light reddish paint.

5. Small fragment of large rimless vessel. Traces of light chocolate paint. Coarse and probably handmade. 23027. NVT. III. M (3). Pit.
- 5a. Similar as T. 5, but well made and unslipped and unpainted. 6070. NVT. I. i. D (4).
- 5b. Large sherd of a vessel with slightly inwards tapering sides, and angular belly. Thin brownish slip outside with batched elongated vertical triangles (or stylized leaves). Similar design occurs on a pale green or buff ware. 23424. NVT. III. v. A (6).
- 5c. Small sherd, vessel with straight internally bevelled edge. 23424a. NVT. I. H (3).
- 5d. Rim fragment, vessel with very broad mouth, straight sides, overt rim. Fine fabric, traces of red painting inside also. 3048. MHSR. V. i. A (12).
- 5e. Rim fragment, almost similar, but thinner, very fine, fast wheel, slipped and painted. 3048a. NVT. I. i D (2).

Fig. 6 (6—6d, 7, 8a—8b)

Types 6-8 Miscellaneous with globular body and/or high neck

This is again a miscellaneous group, but the types having probably some relation with the preceding T. 5; however nothing certain can be said from shoulder or neck fragments. Except one, T. 7, all are painted and slipped externally, but the fabric, save in one—T. 6c—is comparatively coarse and full of holes.

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6. Shoulder, fragment, light brown slip with design as in T. 5b. 8015. NVT. V. B. (5).
- 6a. Similar to above, but slip dark red, and concentric rings round the neck in addition to design as in T. 5b. 20271. NVT. III. iv. D (4).
- 6b. Similar to T. 6a.
- 6c. Sherd, fine fabric, light red slip with zigzags or alternately inverted triangles in light chocolate slip. 24070. NVT. III. v. B (4).
- 6d. Sherd, slip as in T. 6a. and T. 6b. with huge festoons or arches and a wavy vertical. 22301. NVT. III. iv. M. (4).
- 6e. Sherd, slip both sides and a thick rib round the belly, with festoon-like design hanging down from double horizontal lines. 20751. NVT. III. iv. D (3).
7. Small rim piece, broad mouthed vessel, light brown unslipped surfaces, resembling in type and fabric the OCP ware of Nasik I,¹ having externally broad and flat, cut rim. 24436, NVT. III. v. B (7).
8. Sherd, high narrow neck, (perhaps stem of a dish on stand), coarse unpainted fabric, light brown surfaces with very faint irregular bands round the neck. 4456. MHSR. V. i. M (8).
- 8a. Sherd, high narrow neck, lustrous red slip over light brown fine fabric. Traces of graffitti-like triangular and a vertically incised line. 4281. NVT. I. i. G (7).
- 8b. Sherd, high (?) narrow neck, with double cut rim, unslipped light brown, coarse surface, with paintings in light black or chocolate. 10490. NVT. I. i. H (6).

Fig. 7 (9—9e)

Type 9 High necked vessels with concave neck and flaring rims

The full or partial shape of the body is unknown. The fabric is generally thin with light brown or red slip with smooth or polished surfaces. The clay is not well levigated and the core is blackish ; wheel-made.

9. Almost complete neck portion. Thick black band along the inside of the edge and round the neck. 4274. NVT. III. V a (5).
- 9a. Fragment, red slip with zones of the black festoons or arches with "Sun"-like design and a row of dots hanging down from the junction of arches. 2961. NVT. I. i. F (u).
- 9b. Similar to 9a, but larger and having a hatched "Sun" instead of with rays on a dark red slip. 4872. and 4872b. NVT. iii. c. Pit 11 sealed by (11).
- 9c. Fragment, thicker, coarse gritty surface, chocolate slip, zigzags or arches with straight lines and bands round the neck. 11236. NVT. I. i. F (7).
- 9d. Fragment, rim almost angularly outturned, coarse, gritty surfaces, bands round the neck, and short vertical lines hanging down from the edge on the inside. 22446. NVT. III. iv. M (5).
- 9e. Small sherd, neck, much straighter than in previous types. Elongated triangles with dots. 2961. NVT. I. i. B (3).

1. SANKALIA H.D., and DEO S. B., *Excavations at Nasik and Jorwe*, Fig. 5 m., p. 46.

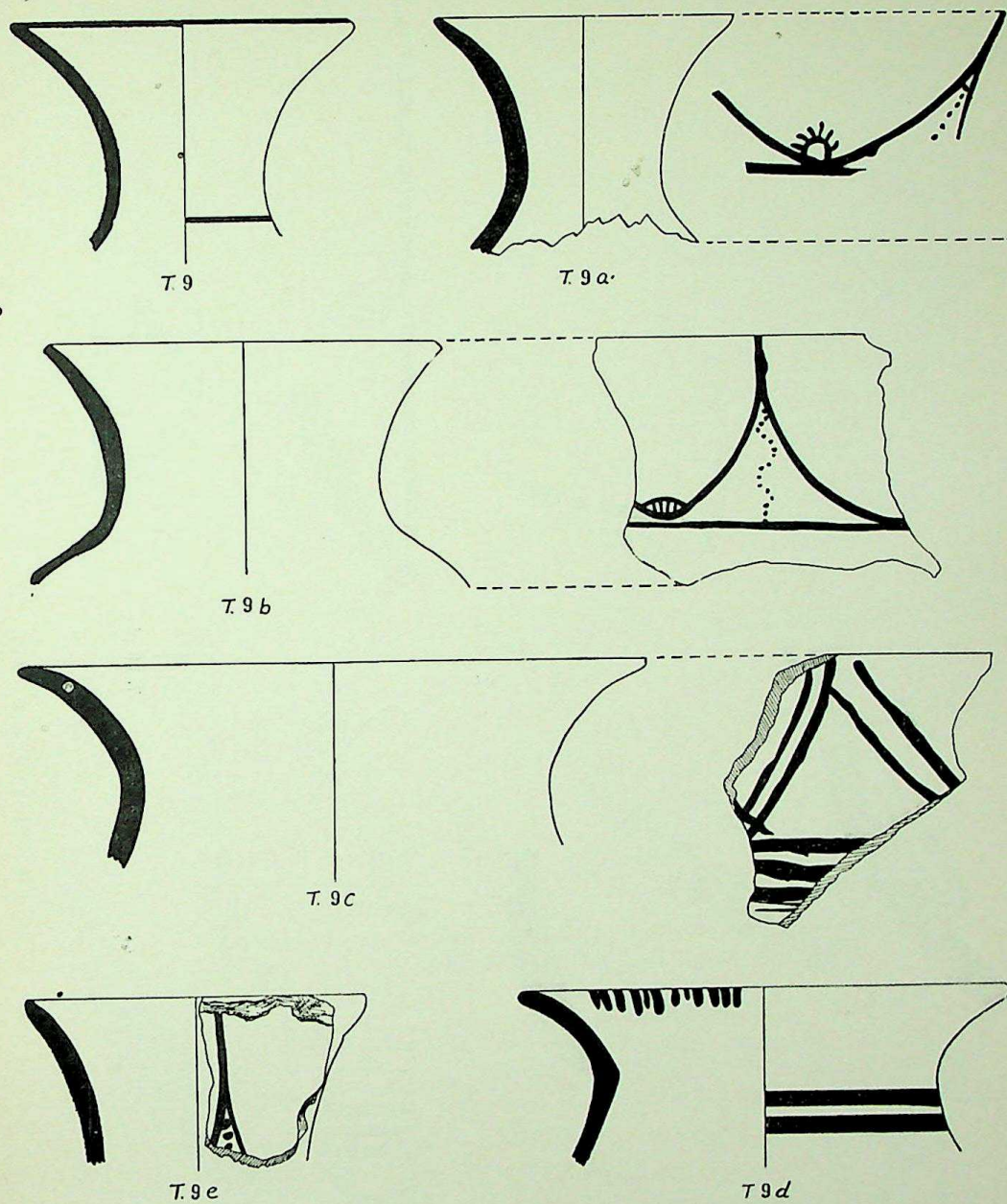


Fig. 7 Types 9-9e [$\frac{1}{4}$]: High concave necked vessels, NVT. Period III. (See p. 90)

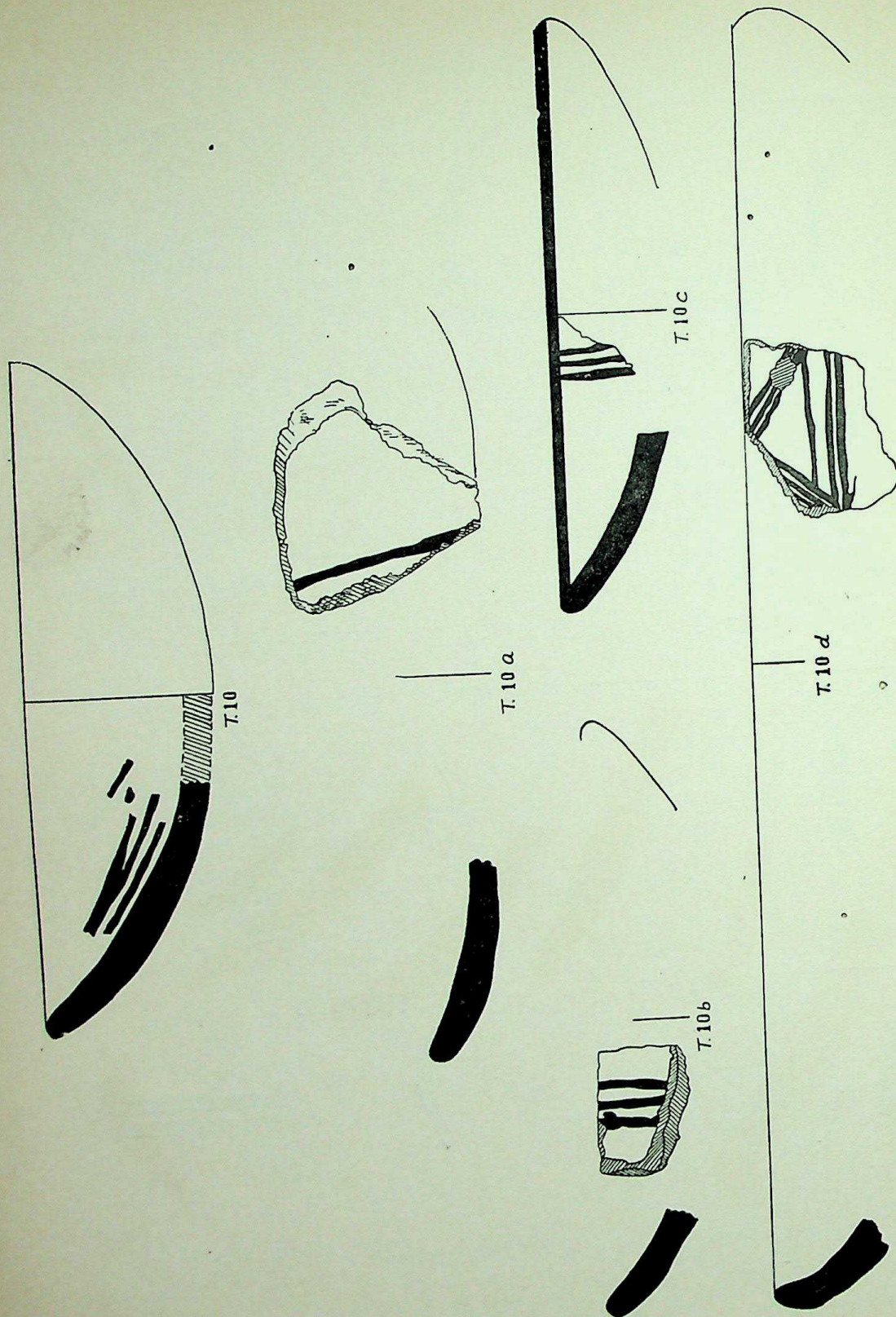


Fig. 8 Types 10-10d [11]: Jar Covers, NVT. Period III. (See p. 91)

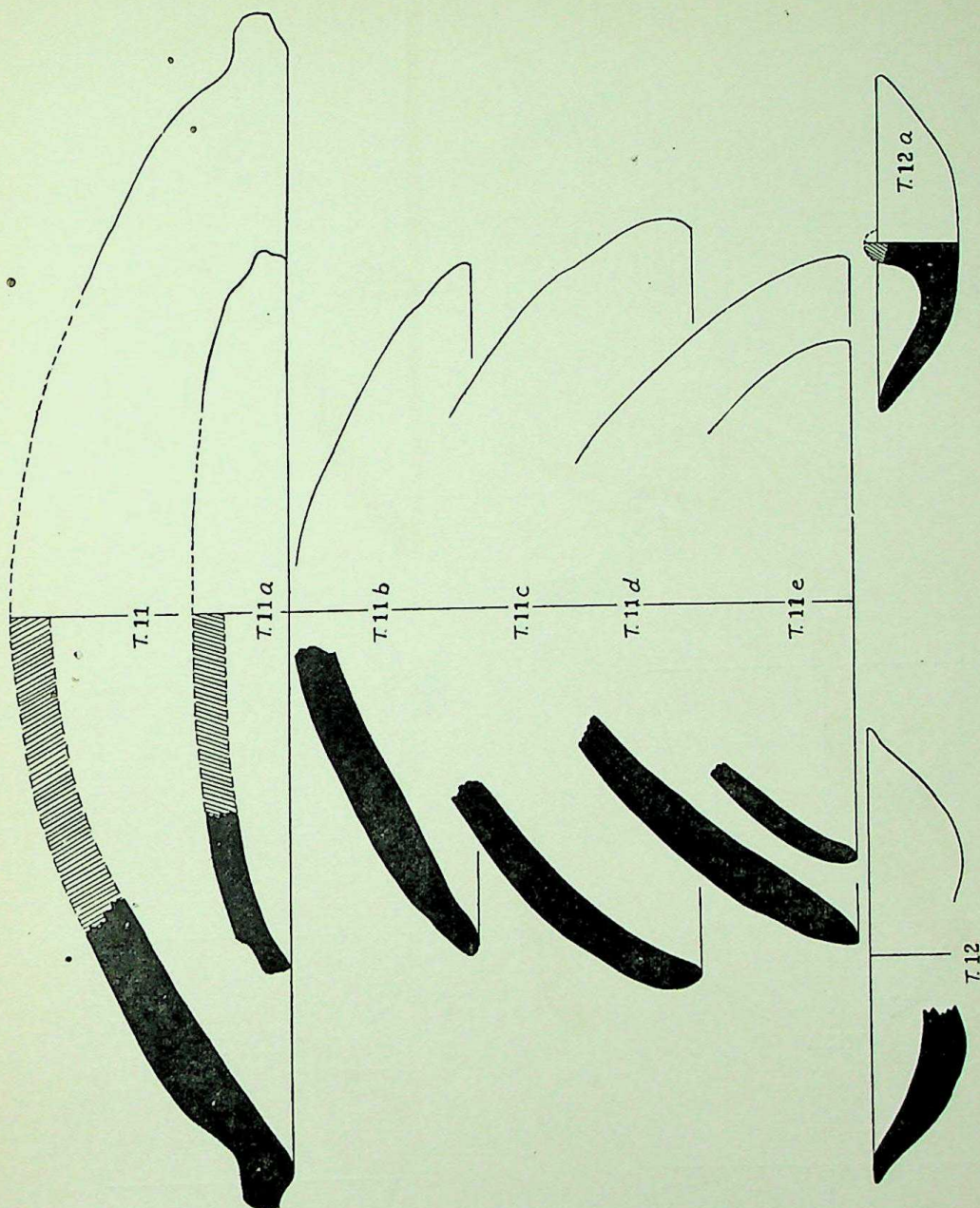


Fig. 9 Types 11-12a [1] : Jar Covers and Lids, NVT, Period III. (See p. 91)

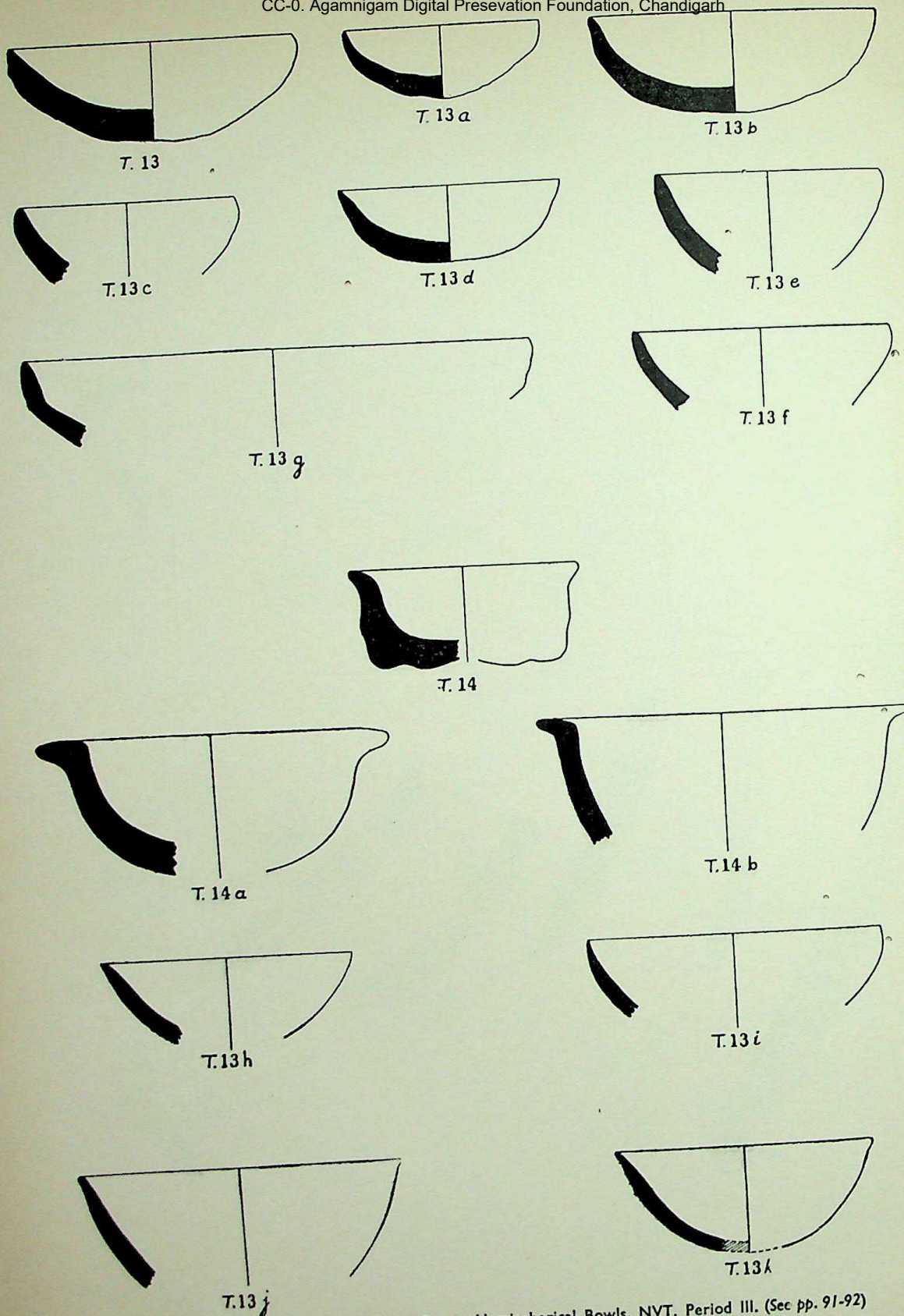


Fig. 10 Types 13-13k, 14-14b [$\frac{1}{4}$]: Coarse Hemispherical Bowls, NVT. Period III. (See pp. 91-92)

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Fig. 8 (10-10d)

Type 10 Jar Covers (?)

A few rim fragments seem to represent very shallow dishes or covers. Indeed, at present these serve a double purpose. All are painted with vertical or horizontal group of lines on a matt red or brown surface, which is now very much worn out. The fabric is thin, coarse, and ill baked.

10. Large sherd of a slightly deeper cover or dish with a featureless rim. Light chocolate slip on the inner side with a triangular group of radial lines. Traces of light black band along the edge of the rim. 8026 b. NVT. I. i. H (5).
- 10a. Sherd of an almost flat dish or cover. 8026 a, NVT. I. i. H (5).
- 10b. Small sherd. 8026. NVT. I. i. B (5).
- 10c. Small sherd. 8415. NVT. I. i. D (5).
- 10d. Small sherd, with slightly incurved rim, with groups of lines forming a triangle, on the outer side. 1453. NVT. II. iii. B (12).

Fig. 9 (11-11e ; 12, 12a)

Types 11-12 Jar Covers and Lids

A few sherds of the unpainted ware represent lids or covers. Their surfaces are coarse, handmade, and though reddish on both sides, are unslipped and have a blackish core.

11. Sherd of a large cover with a groove-like depression at the edge. Underside very coarse. 24104. NVT. III. ii. B (5).
- 11a. Sherd, cover, smaller and thinner, with a slightly protruding edge at the top. Under-surface coarse. 22364. NVT. III. iv. M (5).
- 11b. Sherd, cover, more concave, and simple edge. 22256. NVT. III. iv. M (4).
- 11c. Sherd, cover, concave with rounded edges. 24038. NVT. III. v. B (4).
- 11d. Sherd, cover, concave, almost domical roof, with slightly pointed edges. 22243. NVT. III. iv. M (4).
- 11e. Small sherd, thinner. 22243a. NVT. I. A (4).
12. Sherd, small lid, with bevelled edges smooth underside, and worn out outside. Knob probably broken. 22158. NVT. III. iv. M (2).
- 12a. Sherd, small lid, with a knob and pointed edges, now broken, very coarse surfaces. 5821. NVT. I. i. B (4).

Fig. 10 (13-13k, 14-14b)

Type 13-14 Bowls (unpainted)

A few sherds illustrate these unpainted hemispherical bowls. A majority are coarse, gritty, unslipped and probably handmade. A very small

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number have thin sides, fine red slipped surfaces and pointed or bevelled edges. Thus we have three types :—

- (i) Coarse, thick sided, and pointed edges ;
- (ii) Fine, thin, with pointed edges ; and
- (iii) Coarse, thick, with flat rims.

13. Fragment, bowl, thick base, pointed edge, coarse, hand made. 23280. NVT. III. v. A (5).
- 13a. Similar but smaller, almost complete. 14593. NVT. II. iii. D (12).
- 13b. Complete bowl, finish better. 4692. NVT. III. v. A(4).
- 13c. Small piece. 1000. NVT. I. i. A (2).
- 13d. Fragment, with red slip inside. 3273. NVT. I. i. D (3).
- 13e. Fragment, coarse, but wheel-made. 3474. NVT. I. i. E (3).
- 13f. Fragment. 14175. NVT. II. iii. A (9).
- 13g. Fragment, bowl with angularly inturned rim. 23251. NVT. III. v. A (4).
- 13h. Fragment, bowl, fine slipped, red ware. 10631. NVT. I. i. A (7).
- 13i. Fragment, fine, thin fabric with pointed edge. 21641. NVT. IV. iv. K (5).
- 13j. Fragment, slightly coarse surfaces. 22055. NVT. III. iv. L (4).
- 13k. Similar to above, but has a thin, shallow groove outside at the edge. 5862. NVT. I. i. B (4).

Type 14 Bowls with outturned flat rim

14. Fragment, bowl with outturned flat rim, coarse, hand-made. 6411. NVT. I. i. D (4).
- 14a. Similar to above, but larger with a broader rim. 3277. NVT. I. i. D (3).
- 14b. Similar to T. 14a, but has red slipped surfaces and is generally finer. 7892. NVT. I. i. B (5).

Painted Bowls

Sherds of painted bowls formed a majority among the vast quantities of painted pottery. Basically, according to types, they may be grouped into :—

- (i) Hemispherical,
- (ii) Ovaloid,
- (iii) Sub-ovaloid, and
- (iv) Carinated (with its three sub-types).

The first three are also found among the very small quantities of white-and-cream-slipped and black-and-red ware. But within each type minute shades of differences occur owing to the thickness of the wall and edges and designs. Hence over 10 plates (figures) had to be devoted to

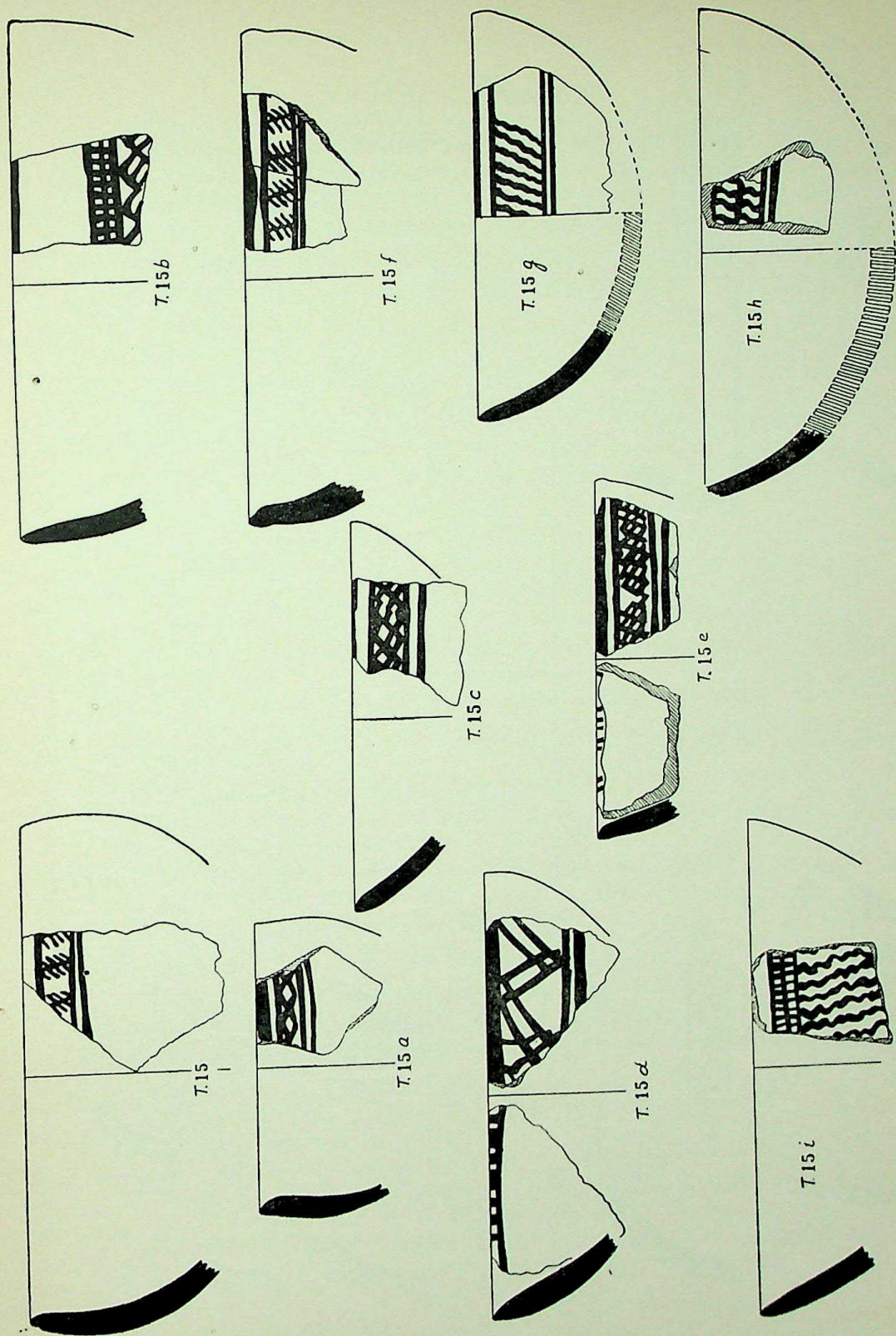


Fig. II Types 15-15i [$\frac{1}{2}$] : Painted Hemispherical Bowls, NVT Period III. (See p. 93)

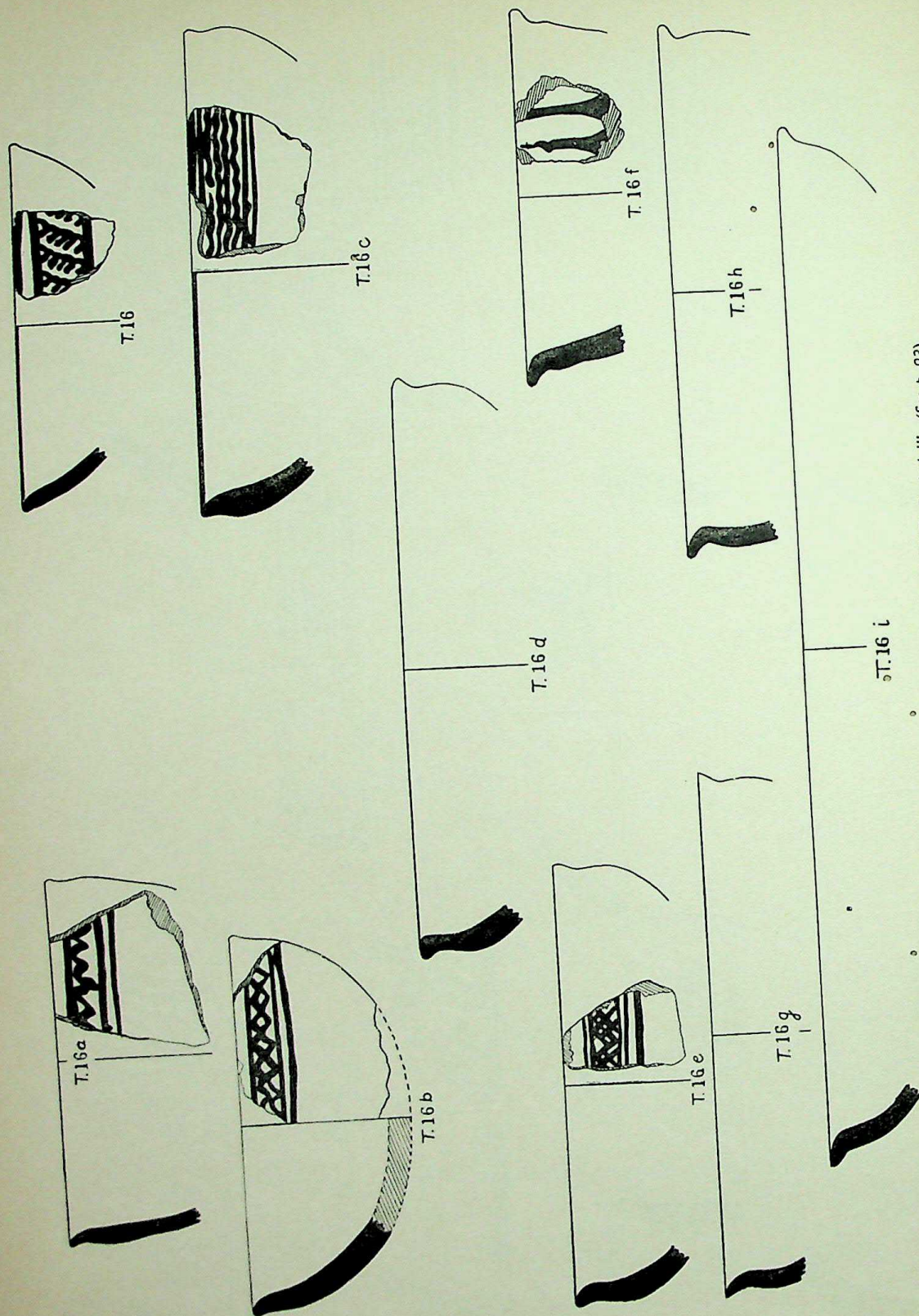


Fig. 12 Types 16-16i [4] : Lipped Hemispherical Bowls, NVT, Period III. (See p. 93)

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illustrating these features. The fabric, except in a few carinated types, is smooth, though gritty, with not fully baked core. It is never glossy or lustrous. The slips, usually on both surfaces, vary from red to pale brown. The paintings, normally in black, are confined to the upper half of the bowl. The most common designs are :—the lattice, wavy, lines, “plant”, criss-cross and occasionally “double-axe” or opposed triangles.

Fig. 11 (15-15i)

Type 15 Hemispherical Bowls

This figure illustrates bowls which are generally hemispherical. But the sides seem to bulge and turn in or out, and their edges pointed or very delicately bevelled. The surfaces are smooth and have red slip, but slightly worn out.

- 15. Sherd, bowl, thick, slightly inturned side. 5887. NVT. I. i. B (4).
- 15a. Sherd, bowl, slightly bevelled or inward tapering edge. 6117. NVT. I. i. C (4).
- 15b. Sherd, bowl, slightly tapering sides. 5502. NVT. I. i. B (4).
- 15c. Sherd, bowl, outgoing sides, with slightly bevelled edges. 4872. NVT. I. i. H (3).
- 15d. Sherd, bowl, thick outgoing sides, with pointed edges. 23421. NVT. III v. A (6).
- 15e. Sherd, bowl, internally faceted and pointed edge, and a little groove outside at the edge. 20557. NVT. III. ii. D (2).
- 15f. Sherd, bowl, similar to T. 15e, but thicker fine slipped surfaces. 6122-6143 NVT. I. i. C (4).
- 15g. Sherd, bowl, Cf. T. 15d, but thinner. NVT. I. i. A (4).
- 15h. Similar to 15g, but bigger with designs in two zones or separated by a horizontal bar. 9384. NVT. I. i. B (6).
- 15i. Similar to 15h, with lattice and wavy design. 5641. NVT. I. i. B (4).

Fig. 12 (16-16g)

Type 16 Hemispherical Bowls with a small lip

There are a few unpainted specimens also. All have a light red slip, and smooth surfaces. Type 16i (No. 9153) comes from the lowest layers, and shows that from the beginning both the varieties were current.

- 16. Sherd, bowl with an incipient lip, as in T.15f. 21170. NVT. IV. iv. J (2).
- 16a. Sherd, bowl with a little lip. 23258. NVT. III. v. A (5).
- 16b. Sherd, bowl, as above, but thicker and worn out inner slip. 7069-70. NVT. I. i. F (4).
- 16c. Sherd, bowl, as above, but having horizontal chain or wavy design. 6692. NVT. I. i. E (4).
- 16d. Sherd, bowl, unpainted, with a prominent lip. 14301. NVT. II. iii. D. (10).

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- 16e. Sherd, bowl, with design almost effaced. 8908. NVT. I. i. G (5).
 16f. Sherd, bowl, with still more prominent lip, and uneven surfaces. 5124. NVT. I. i. C (4).
 16g, h and i. Sherds of bowls, unpainted, with more pronounced lips. 11692. NVT. I. i. B (2). 9153. NVT. I. i. H. (6).

Fig. 13 (17-17h)

Type 17 Sub-ovaloid Bowls

Sub-ovaloid bowls with a small lip. This is a mixed lot, in type as well as in fabric. The dominant shape seems to be sub-ovaloid, with a small lip, made by internal bevelling and outturning of the edge. Though all have a red slip of varying shades, one has a bright red and another a polished surface. The last two and one more have also very thin walls. The first three in the figure provide new and rare designs.

17. Sherd, bowl, light chocolate smooth surfaces with a broad double-axe like design bounded on either side by a wavy band. 6305. NVT. I. i. D (4).
 17a. Sherd, bowl, with very thin sides, bright red but matt external face and group of verticals. 14825. NVT. II. iii. Pit 10.
 17b. Sherd, glossy red slip outside with dots and triangle. 12415. NVT. I. i. F (6).
 17c. Tiny, thin sherd. 2582. NVT. I. i. A (3).
 17d. Sherd, thicker, with similar design. 4471. NVT. I. i. G (3).
 17e. Almost complete, light brown and coarse outside, internally red and worn out. Zigzag in reddish black. 24060 NVT. III. v. B (4).
 17f. Sherd, bowl, unpainted. 1304. NVT. I. i. G (4).
 17g. Sherd, bowl, 5583. NVT. I. i. B (4).
 17h. Sherd, bowl, very prominent lip, fine light tan, slipped surfaces. 14820. NVT. II. Pit 10.

Fig. 14 (18-18e)

Type 18 Ovaloid Bowls

The bowls here illustrated are ovaloid, with a short, straight rim and possibly flat base. They are painted as well as unpainted.

18. Sherd, ovaloid bowl, thin, elongated, vertical triangles on red slip.
 18a. Similar, with horizontal bands, and a suspended loop with a circle on the right.
 18b. Similar, with loops having circles on the left and a wavy line below.
 18c. Sherd, unpainted.
 18d. Sherd, small bowl, unpainted.
 18e. Sherd, large bowl, with a groove on the shoulder.

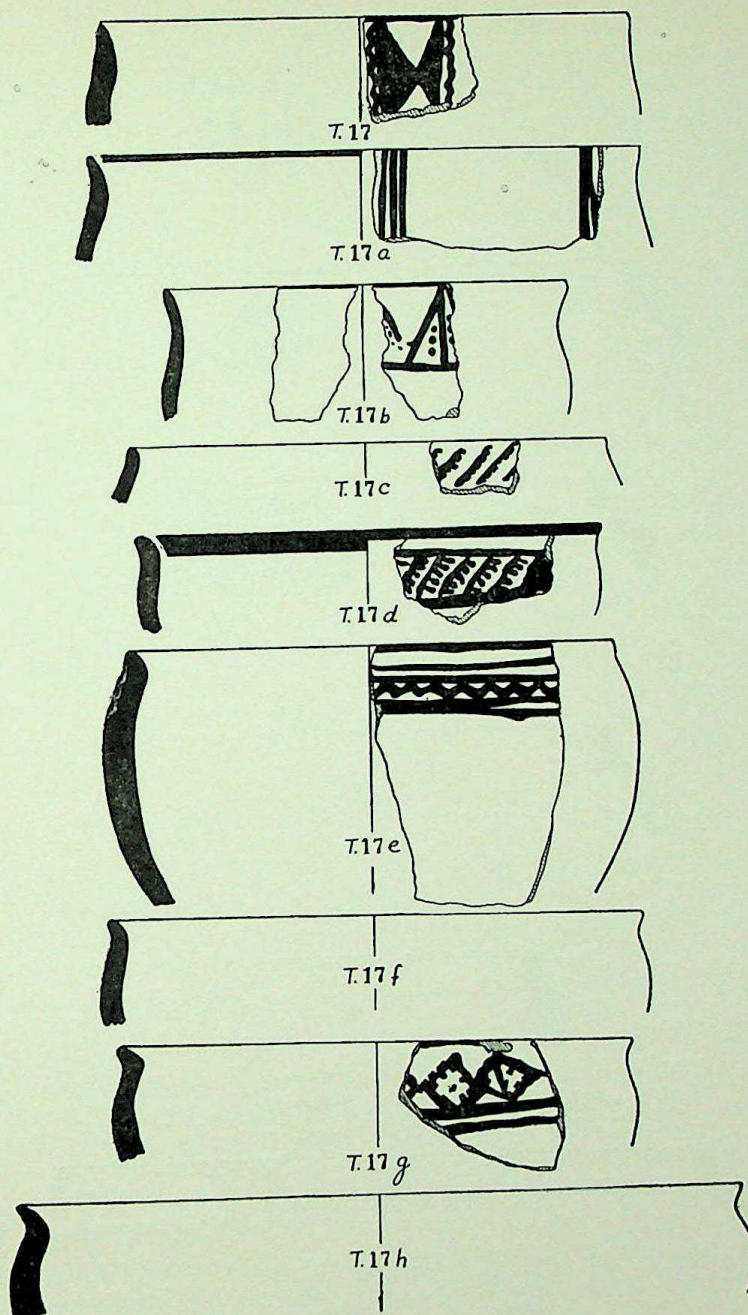


Fig. 13 Types 17-17h [1/2] : Sub-ovaloid bowls, NVT. Period III. (See p. 94)

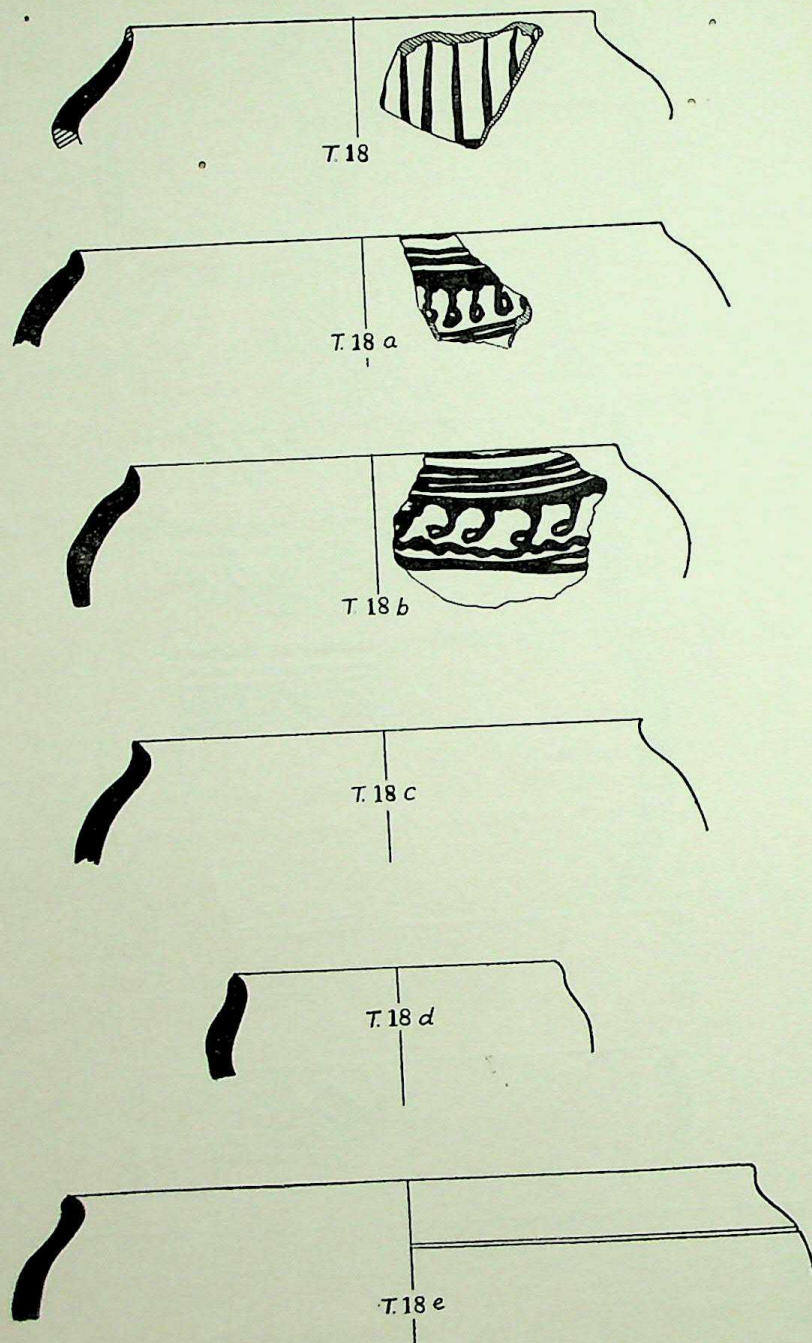


Fig. 14 Types 18-18e [$\frac{1}{2}$] : Ovaloid bowls, NVT. Period III. (See p. 94)

POTTERY OF PERIOD III

Figs. 15-19 (19, 20 and 21)

Sherds of carinated bowls were found in a very large number, and probably reflect the actual popularity of this shape over others. Though all look superficially similar in shape, broadly they fall into three sub-types:—

- (a) Carinated bowls with upright concave sides, and internally bevelled rim.
- (b) Carinated bowls with incurved concave sides, and internally bevelled rim.
- (c) Carinated bowls with outturned concave sides and internally bevelled rim.

Slight variations in the concavity of the side, the size, and the design have induced me to group each of these into smaller sub-types with a view to giving an idea of the large range. With a few exceptions the fabric is fine having a metallic ring, well levigated clay, fully baked and made on a fast wheel, light red slip on both surfaces which are generally matt. These features along with the shape are important, for they recall similar features of the Jorwe-Nevasa Chalcolithic pottery.

Fig. 15 (19-19g.)

Type 19 Carinated bowls with straight sides

- 19. Small sherd, diamond lattice on smooth red slip, the base is light chocolate. 23984. NVT. III. v. B (2).
- 19a. Very small sherd, similar to T.19, having elongated triangles which have become faint. 6827. NVT. I. i. E (4).
- 19b. Large sherd, with the characteristic Jorwe fabric. 21508. NVT. III. iv. K (4).
- 19c. Small sherd, similar to 19b. 4288. NVT. I. i. G (3).
- 19d. Large fragment with a part of the base; fabric as in 19b. 8359a. NVT. III. v. A (5).
- 19e. Sherd, as in 19b. 3694. NVT. I. i. F (3).
- 19f. Three sherds joined with base, but having smooth matt surfaces, as in 19 and 19a. 12423, 7071, 7064. NVT. I. i. F (4).
- 19g. Small sherd, thin sides, fabric as in 19b. 6425. NVT. I. i. D (4).

Fig. 16 (19h-19m)

- 19h. Sherd, dark red slip, fabric as in 19b. 23268. NVT. III. v. A (5).
- 19i. Sherd, very thin walls, light brown slip, fabric as in 19b. No. 10406a. NVT. Surface.
- 19j. Sherd, fine red slip, fabric as in 19b, but smooth surface. 5575. NVT. I. i. B (4).

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- 19k. Small sherd, fabric as in 19a. with a peculiar design like a "bat", or semi-circular leaves with pointed tip, arranged in two vertical rows. 20841. NVT. III. iv. M (1).
 19l. Large sherd with a little of the base portion. Fabric as in 19a. 7872. NVT. I. i. A (5).
 19m. Very small sherd, with thin walls and fine dark red slip, fabric as in 19b. 6462. NVT. I. i. D (4).

Figs. 17-18 (20-20i, 20j-20s)

Type 20 Bowls with incurved concave sides

Except in two cases, the fabric is smooth and once glossy with ill-burnt core, and the slip light brown to red.

20. Small sherd, glossy brownish surface with an almost invisible ridge on the shoulder. 9800. NVT. I. i. D (6).
 20a. Sherd, thin sides with well burnt core, though not made on fast wheel. 3434. NVT. I. i. D (4).
 20b. Large sherd, thick sides and light brown slip. 11485. NVT. I. ii. A (1).
 20c. Large sherd of a big bowl, similar to 20b, with blackish inner surface. 5574. NVT. I. i. B (4).
 20d. Small sherd, thick wall, dark chocolate slip, cracked surfaces. 11652. NVT. I. ii. A (2).
 20e. Sherd, broken rim edge. 8653. NVT. I. i. F (5).
 20f. Sherd, with fabric as in 19b, fine red slip. 6442. NVT. I. i. D (4).
 20g. Large sherd, well fired, but cracked surfaces. 8226. NVT. I. i. C (5).
 20h. Small sherd, very thick side, broken rim edge. 22202. NVT. III. iv. M (2).
 20i. Large sherd, very thick wall, light brown slip. 8026. NVT. I. i. B (5).
 20j. Sherd, light chocolate, slightly glossy surfaces, fast wheel, but not well fired. Leaf or bisected hollow triangle with dots. Its shape, fabric and slip indicate that it belongs to the white-cream slip group. 12436. NVT. I. i. H (6).
 20k. Small sherd, with thin wall, extremely fine fabric, as in 19b. 2919. NVT. I. i. B. (3).
 20l. Small sherd, thick sides, fabric as in 19a. 4316. NVT. I. i. G (3).
 20m. Small sherd, very thick wall. 20308. NVT. III. v. B (3).
 20n. Small sherd, with thick carinated part. 6085. NVT. I. i. C (4).
 20p. Large sherd, worn out surfaces. 8357. NVT. I. i. D (5).
 20q. Large sherd, thin walls, fine fabric. 2359. NVT. I. i. D (2).
 20r. Small sherd. 4469. NVT. I. i. G (3).
 20s. Sherd, glossy red surfaces. 3694b. NVT. I. ii. B (1).

Fig. 19 (21-21e)

Type 21 Bowls with concave outturned sides

21. Small sherd, fine red slip, straight outgoing sides. Double row of plant design. 3341. NVT. I. i. D (4).
 21a. Small bowl, very thick sides, fabric as in 19a. 3341a. NVT. I. i. B (2).

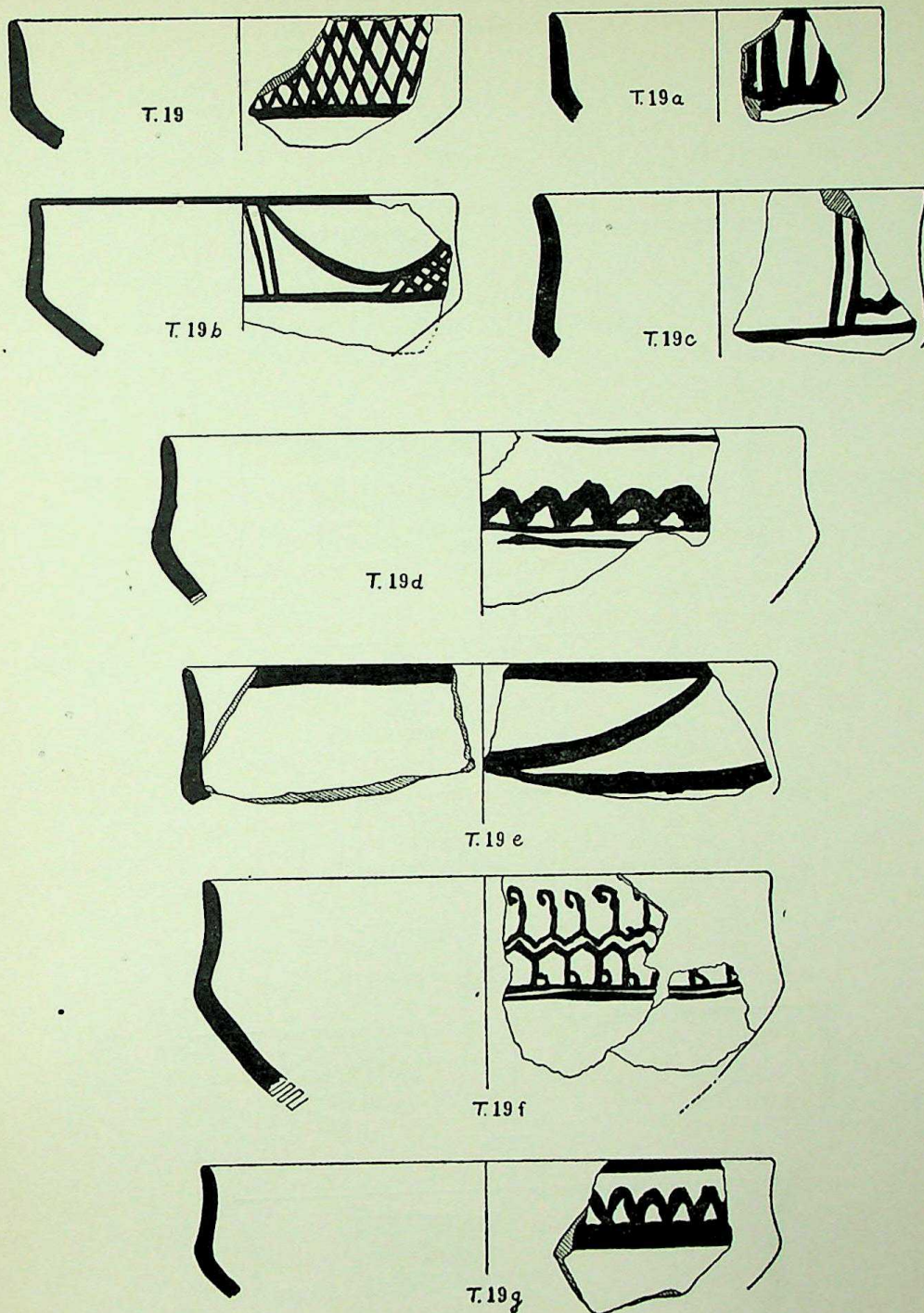


Fig. 15 Types 19-19g [1/2] : Carinated bowls, NVT, Period III. (See p. 95)

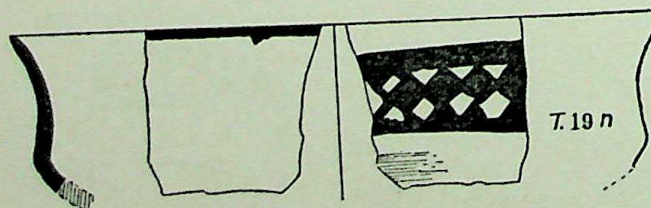
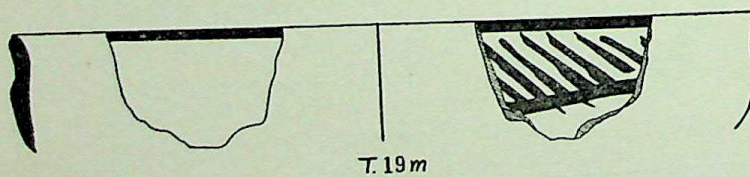
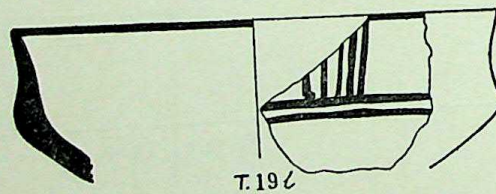
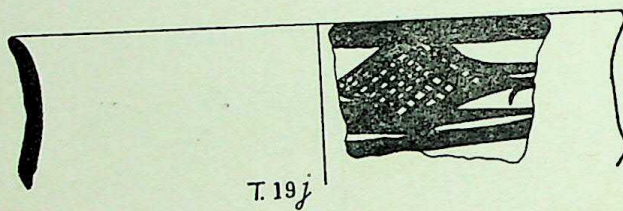
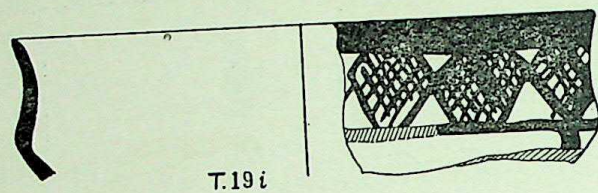
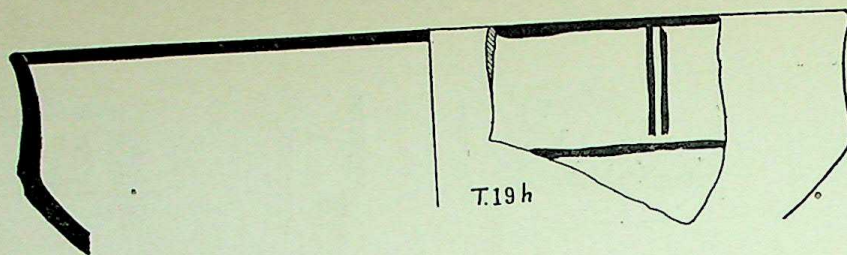


Fig. 16 Types 19h-19m : Carinated bowls, NVT. Period III. (See pp. 95-96)

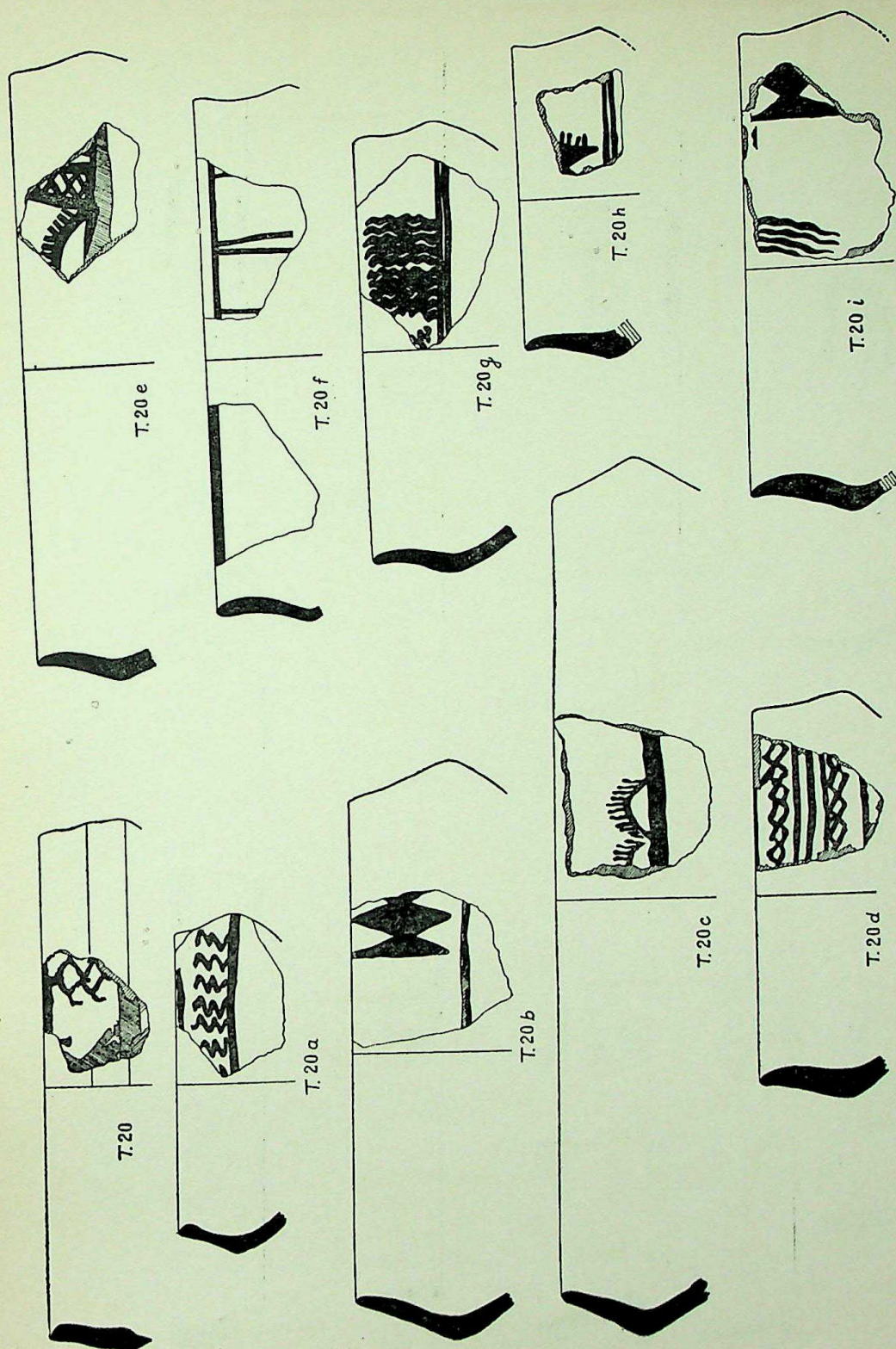


Fig. 17 Types 20-20i [H] : Carinated bowls, NVT. Period III. (See p. 96)

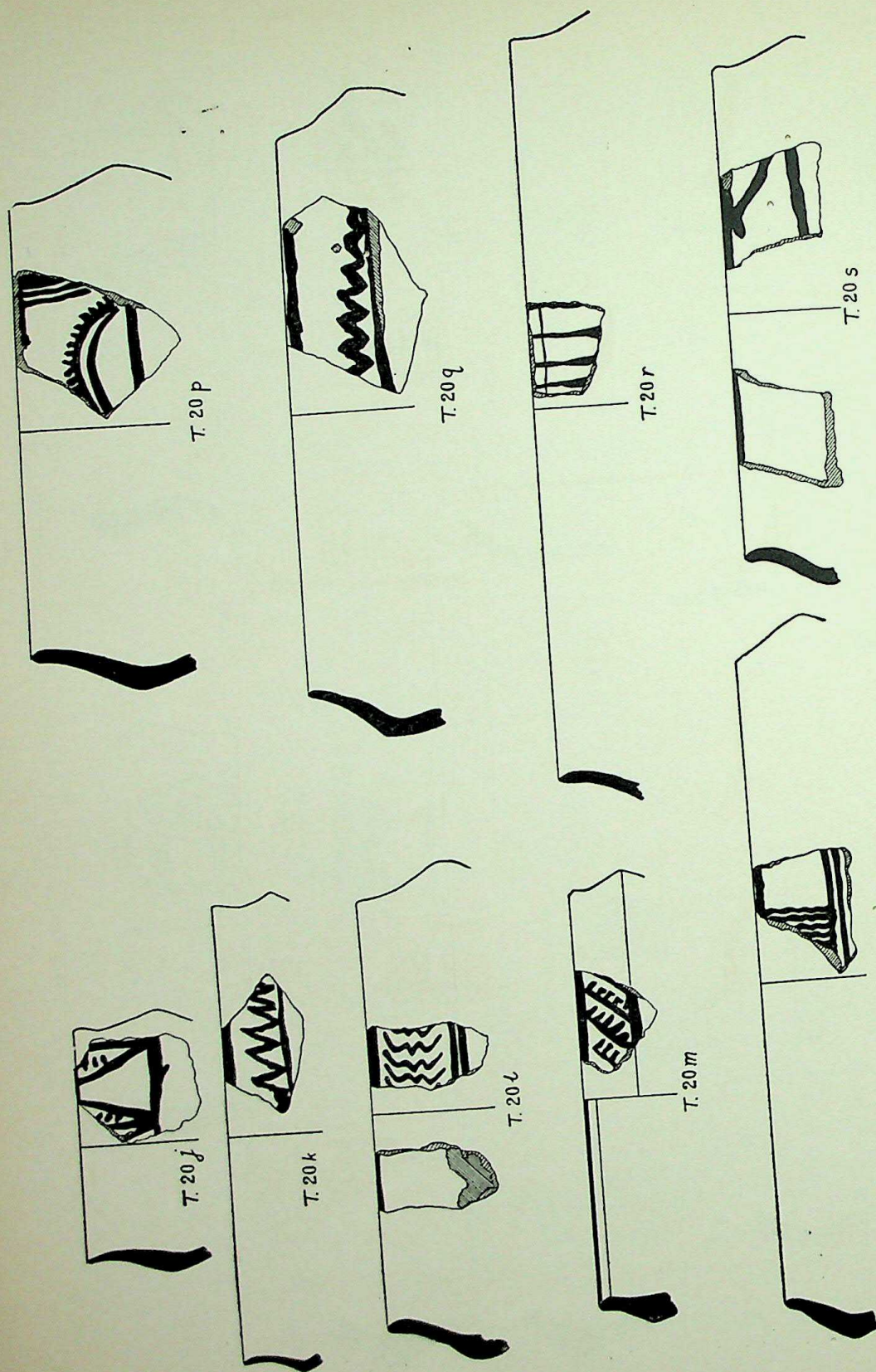


Fig. 18 Types 20j-20s[H]: Carinated bowls, NVT Period III. (See p. 96)

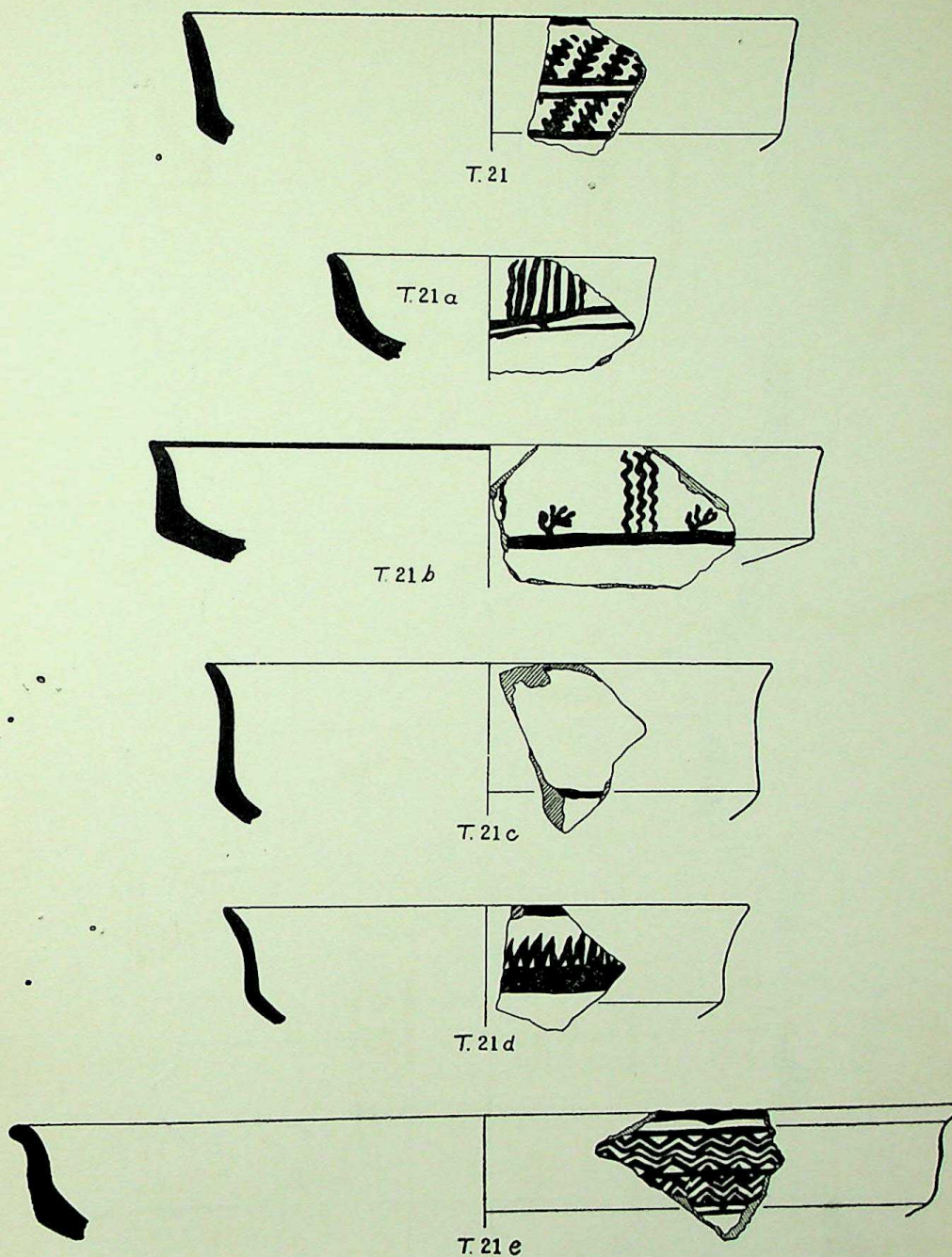


Fig. 19 Types 21-21e [4] : Carinated bowls, NVT. Period III. (See p. 96)

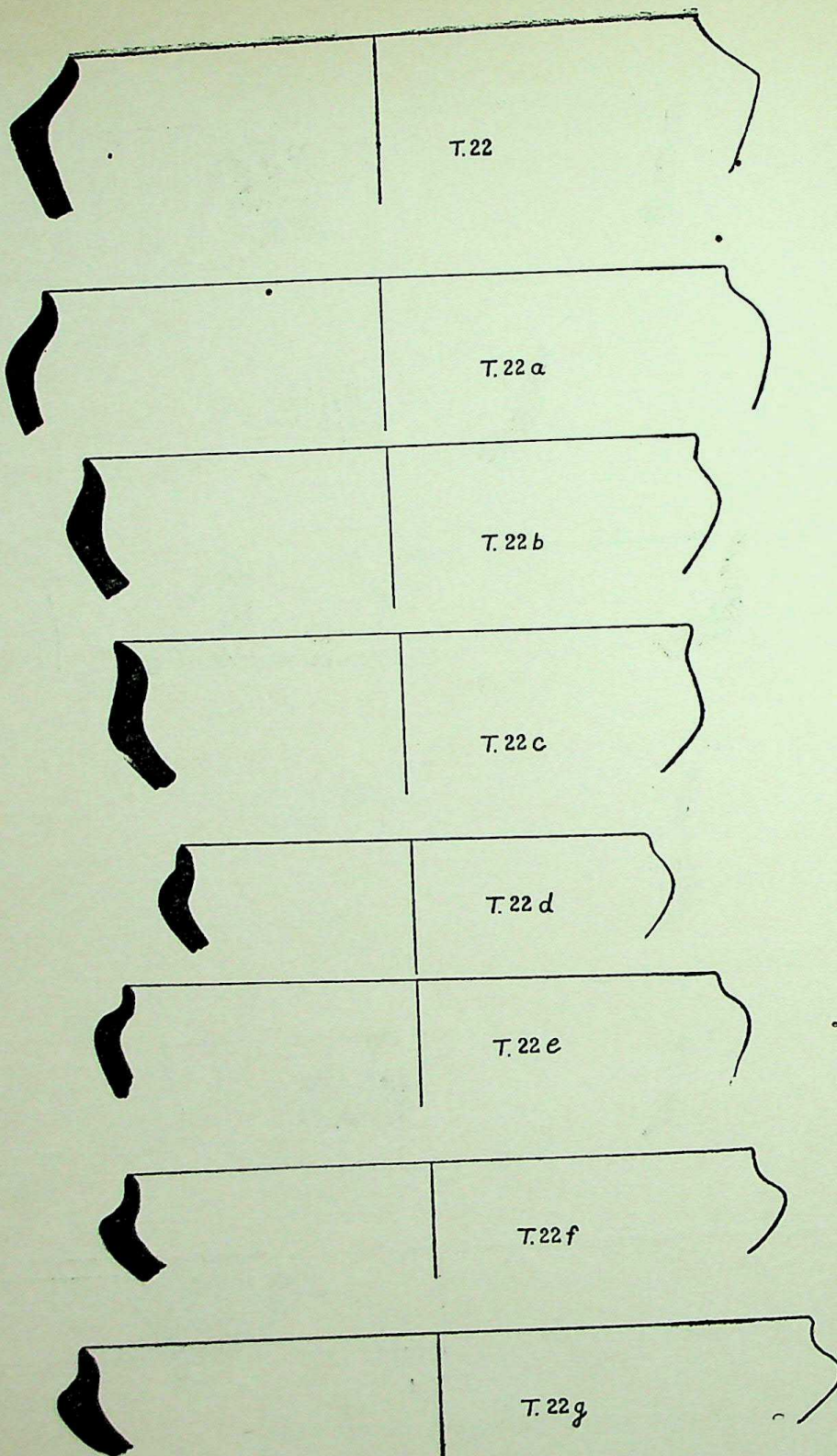


Fig. 20 Types 22-22g [$\frac{1}{4}$] : Bowls, short carinated shoulder, NVT. Period III. (See p. 97)

POTTERY OF PERIOD III

- 21b. Large sherd, thick carinated portion and shallow base. 9186. NVT. I. i. A (6).
 21c. Sherd, bright red, unpainted slip. 5637. NVT. I. i. B (4).
 21d. Sherd, thin walls, fine fabric. 2310. NVT. I. i. G (2).
 21e. Sherd of a large bowl, deep chocolate slip (or over-burnt) surfaces, outgoing sides with everted rim. 2137. NVT. III. iv. K (2).

Fig. 20 (22-22g)

Type 22 Bowls, rounded carinated shoulder, low rim

These bowls have a thick, rounded, carinated shoulder and a low, inturned, bevelled edge, straight or nearly straight rim. All are unpainted, with matt or slightly polished red-slipped, coarse or worn out surfaces, ill-burnt core.

22. Sherd, with angular carination, as in T.20. NVT. I. i. A (4).
 22a. Sherd, rounded shoulder, low bevelled slightly everted rim, matt surfaces. 23895. NVT. III. v. C (2).
 22b. Sherd, rounded but carinated shoulder. 5512. NVT. I. i. A (4).
 22c. Sherd, similar but thicker. 24076. NVT. III. v. B (4).
 22d. Sherd, small bowl, polished surfaces. 21497. NVT. III. iv. K (4).
 22e. Small sherd, well marked rounded shoulder. 21501. NVT. III. iv. K (4).
 22f. Large sherd, base very much thicker, fine red polished surfaces. 7766. NVT. I. i. A (5).
 22g. Small sherd of a large bowl. 6583. NVT. I. i. E (4).

Fig. 21 (23-23h).

Type 23 Dish-cum-bowl with inturned edges

While the general shape of this type is clear enough, it has been difficult to arrange them very systematically as the edges are sometimes rounded and blunt or bevelled, and the shoulder round or acute angled. Only two are painted, the rest unpainted; the slip light brown to light red, matt, smooth, worn out surfaces.

23. Large fragment, light brown, perhaps unslipped surfaces, painting fading or in light blackish red. 7476.A. NVT. III. v. A (5).
 23a. Small, worn out fragment. 11818. NVT. I. ii. B (3).
 23b. Fragment, dish, with very low inturned rim having faceted edge. 14606. NVT. II. iii. D (12).
 23c. Fragment, worn out surfaces. 23043. NVT. IV. iv. M. Pit 3.
 23d. Similar. 24145. NVT. III. v. B (5).
 23e. Small sherd, of a tiny bowl. 14313. NVT. I. i. A (4).
 23f. Large sherd, probably of a bowl, with tapering sides and inturned edge. 24268. NVT. III. v. B (6).
 23g. Very small bowl, fine fabric, surfaces red, matt. 14313 a. NVT. II. iii. A (11).
 23h. Large fragment, much worn out externally. 8183. NVT. I. i. C (5).

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Fig. 22 (24-24d, 24A-24B).

Type 24 Basins

There are a few sherds of a vessel, which is here called a basin, as the mouth is very broad, and though the bottom part is unknown, from the extant sherds it appears that the vessel when intact would be fairly deep. The fabric is fine, made on a fast wheel, the core uniformly red, lightly slipped, and painted in black. Though the fabric is very similar to that of Jorwe-Nevasa, similar types of vessel have not been found there.

24. Sherd, basin, thickened rim, flattened at the top, and separated by a groove. Thinly painted horizontal bands with some other design around the belly. 11609. NVT. I. ii. C (1).
- 24a. Sherd, basin, broader mouth than the preceding, with a deeper groove. Painted band just below or on the groove, and two arched bands on the belly. 7870. NVT. I. i. (5).
- 24b. Sherd, basin or some other type of vessel with short cut rim, and rounded inturned shoulders. Probably unslipped. Jorwe fabric. Group of three oblique lines between two horizontal bands on the shoulder. 9053. NVT. I. i. H (5).
- 24c. Sherd basin, thicker and broader. Flatter rim top having a deep groove. Two parallel bands in vermilion black round the shoulder, and one on the edge of the rim. 23264. NVT. III. v. A (5).
- 24d. Small sherd, basin (?). Thick, flattened rim as in T24, without a groove. Traces of oblique painted bands on the body and below the rim. 5342. NVT. I. i. A (5).
- 24A. This is so far a unique type of vessel at NVT; a big bowl or basin, with a broad, flaring rim. There is a fine pinkish slip, inside and outside, having a matt surface, but the core is coarse and not uniformly baked. 14563. NVT. II. iii C (12).
- 24B. A large bowl, fine fabric, light red slip, matt surfaces. Unpainted. 6374. NVT. I. i. D (4).

Figs. 23-25 (25-26).

Quite a large number of sherds representing dishes was found, though of these, those of the unpainted variety, is indeed small. But this is a feature of Period III pottery.

The unpainted dishes are of two kinds. In one the fabric is very coarse, thick, and hand-made, the colour being black or red, and unslipped. The second variety is much finer. It is wheel-made, polished, and not plain, but has a bowl-like basin with a broad, flaring rim.

The painted dishes have normally a slip, red, dark red, chocolate or shades of this colour. They are thick, mostly wheel-made, though having a blackish core.

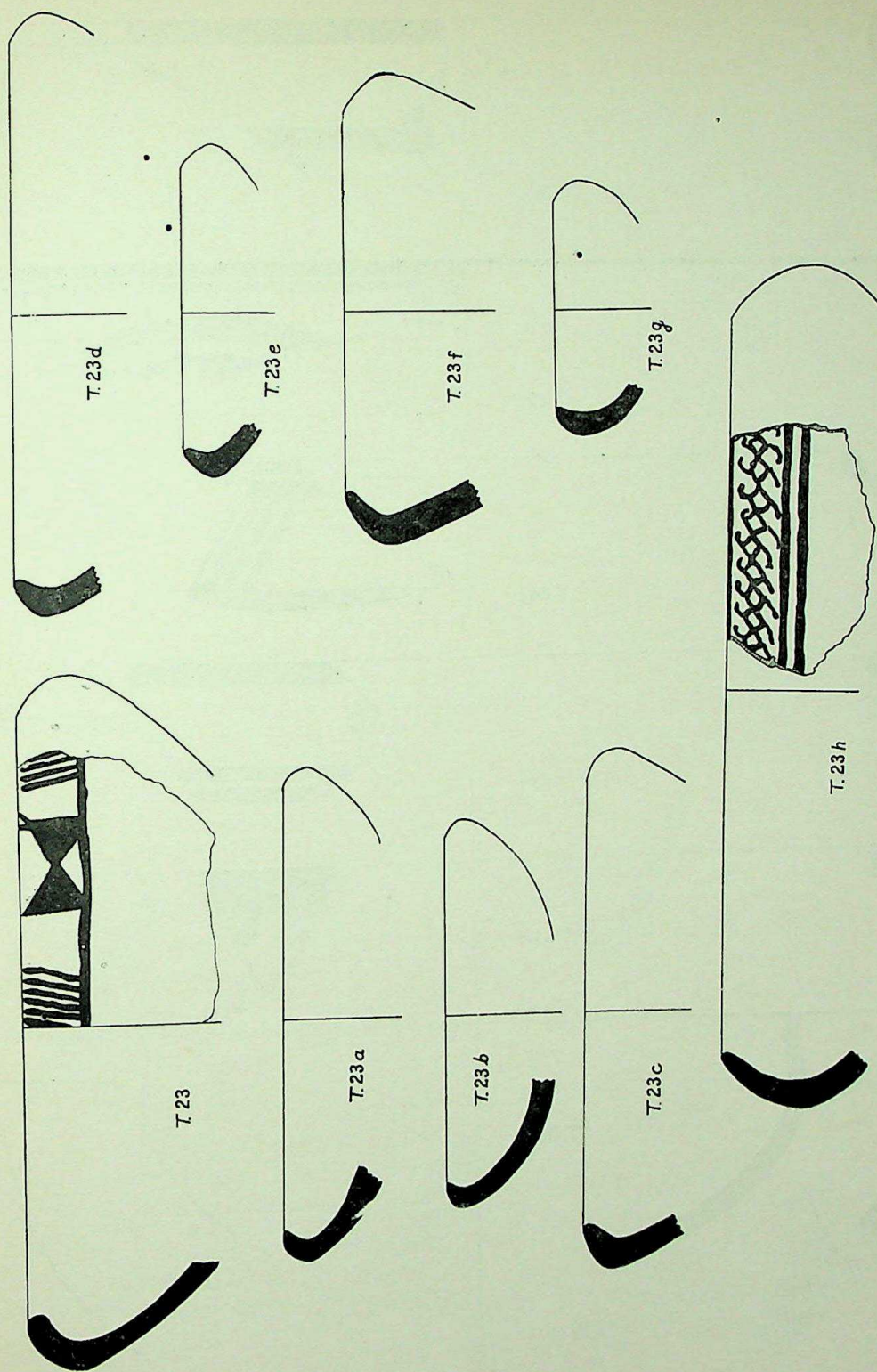


Fig. 21 Types 23-23h [1] : Bowl-cum-dish, NVT, Period III. (See p. 97)

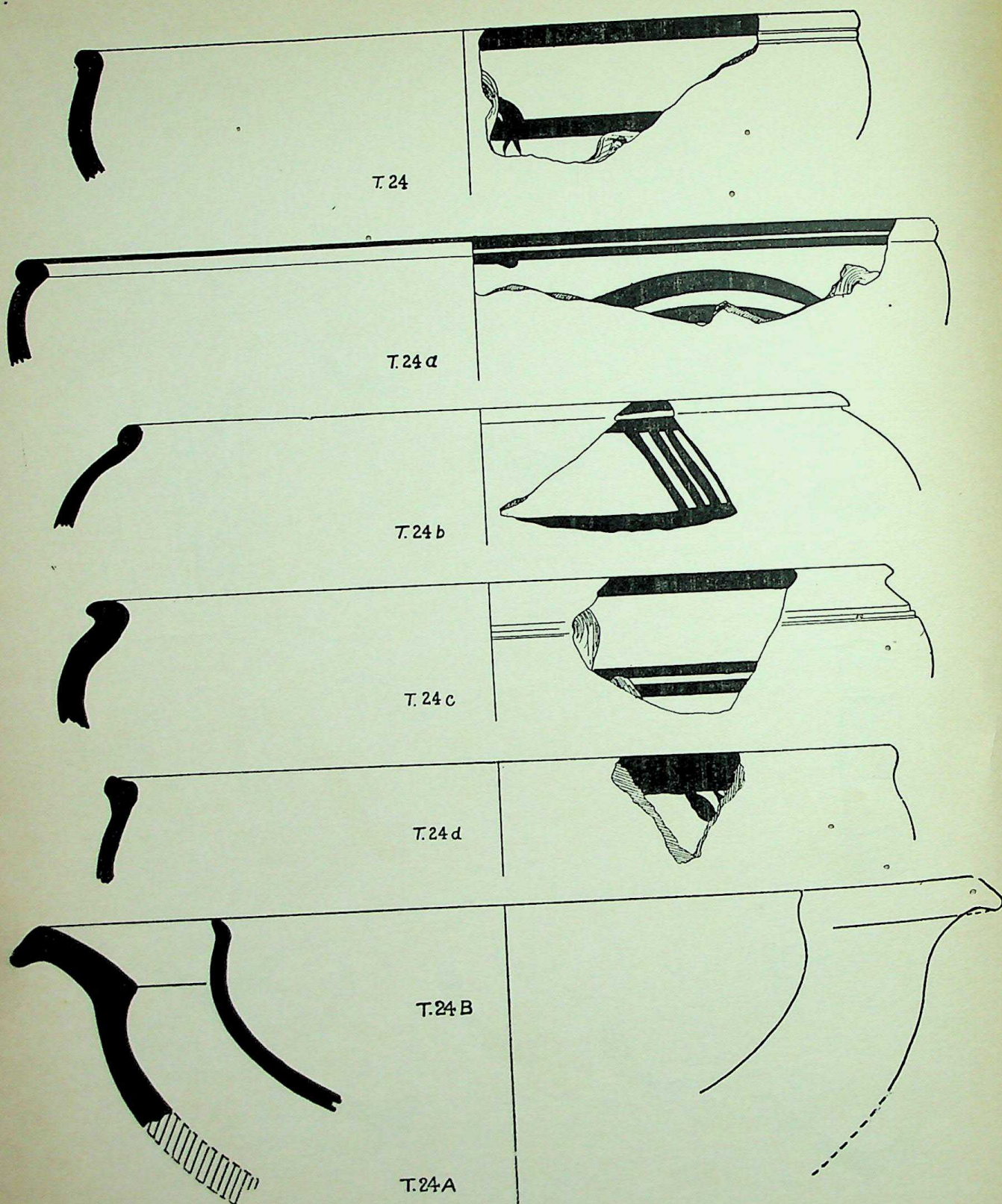


Fig. 22 Types 24-24d, 24A-24B [†] : Basins, NVT. Period III. (See p. 98)

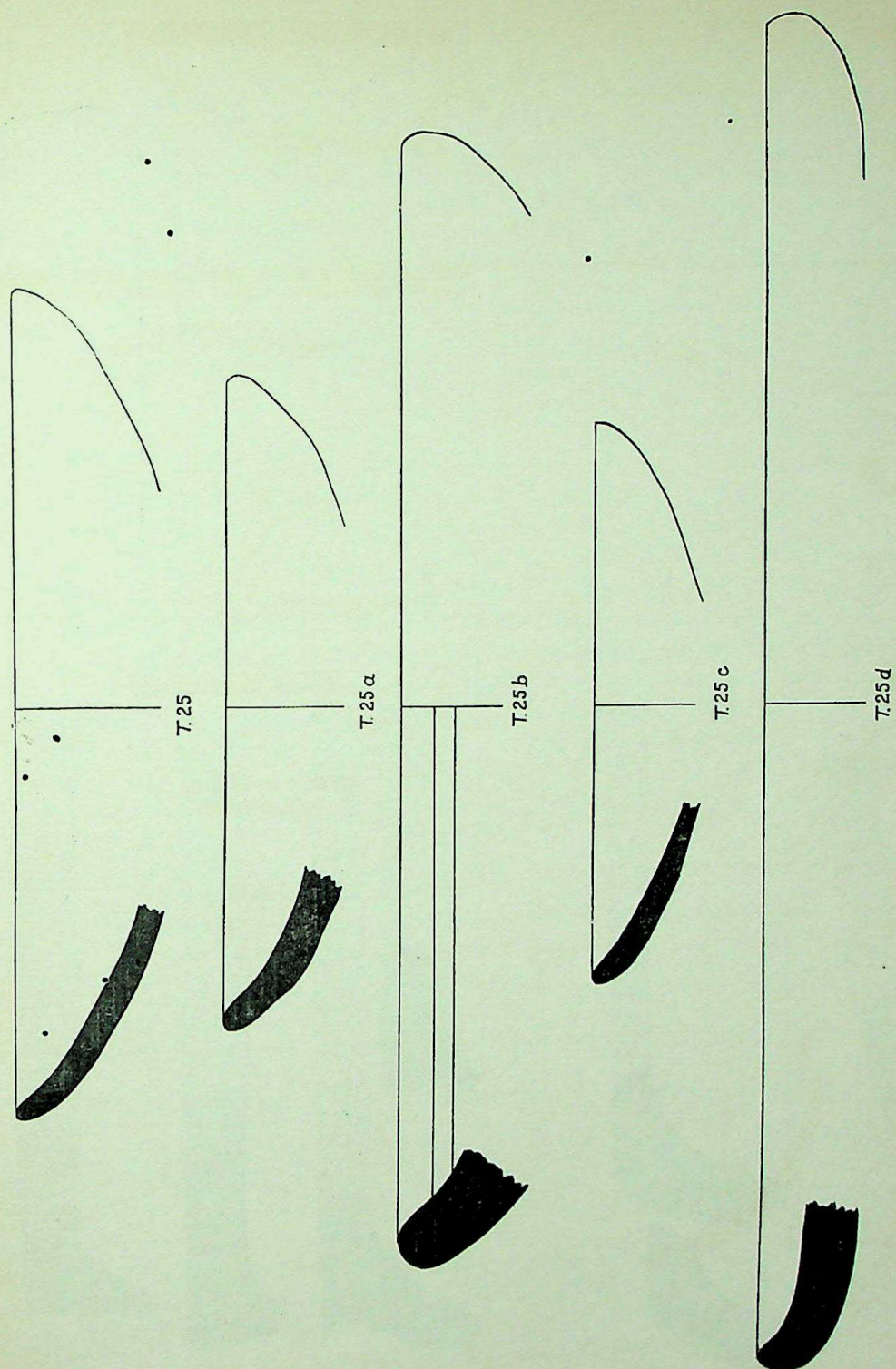


Fig. 23 Types 25-25d [4] : Dishes, NVT. Period III. (See p. 99)

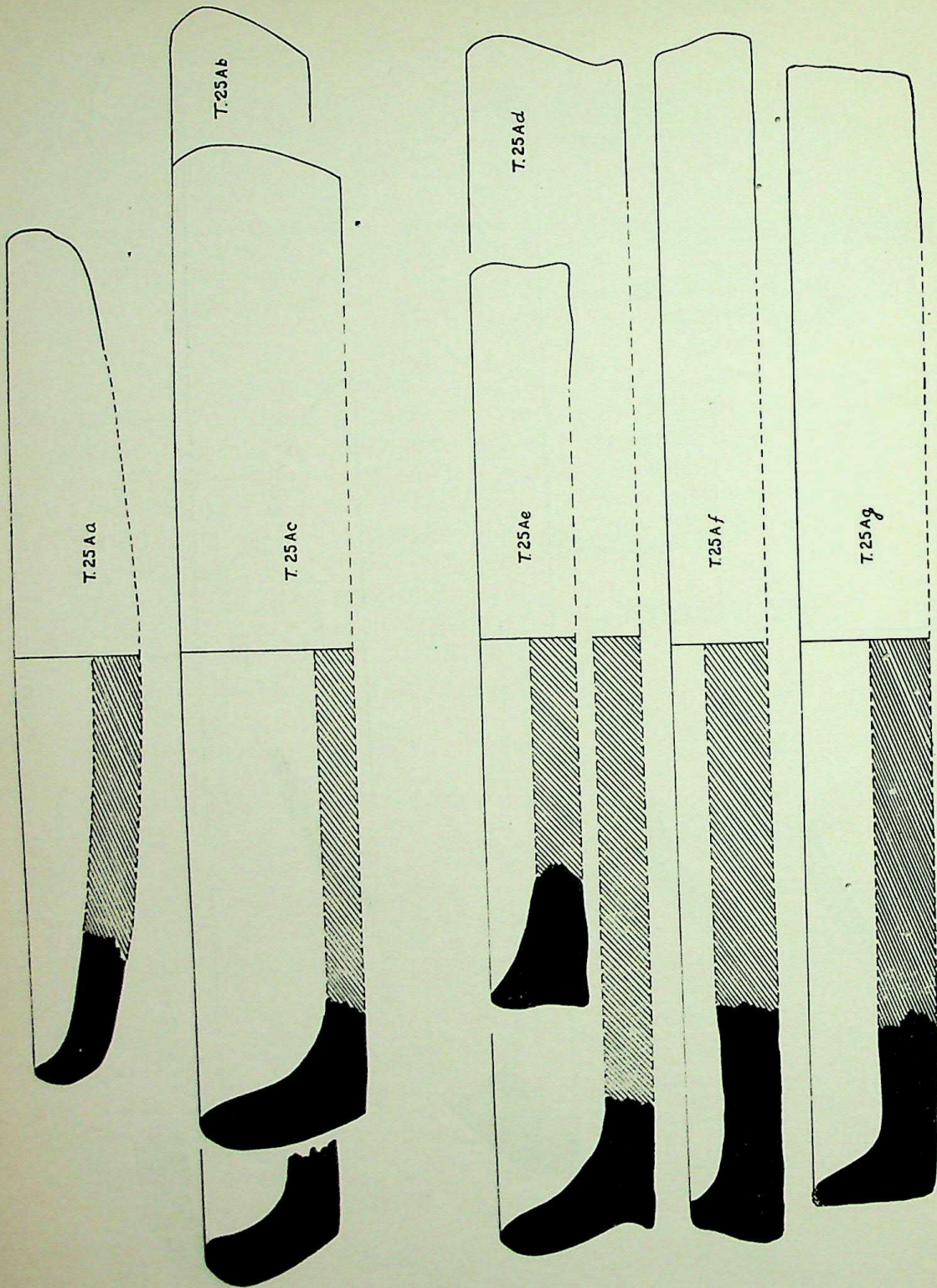


Fig. 24 Types 25Aa-25Ag [$\frac{1}{2}$] : Dough Plates, NVT. Period III. (See p. 99)

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Type 25 Simple Dishes or Roasting Pans

25. Fragment, dish, rounded bottom and edges, very coarse red surfaces stained with lime-like encrustation. 10852. NVT. I. i. C (7).
 25a. Fragment, dish, similar to T.25 but thicker, and better finished. 21643. NVT. III. iv. K (5).
 25b. Fragment, dish, very thick, black ware, with shallow grooves on the inside. 3128. NVT. I. i. D (3).
 25c. Fragment, dish, crude and coarse, black surfaces. 3128a. NVT. I. i. A (4).
 25d. Fragment, dish, very large, shallow and almost flat bottomed, with slightly upturned edges. 6292. NVT. I. i. C (4).

Fig. 24 (25Aa-25Ag)

Type 25A. Dough Plates or Baking Pans

Analogous to the preceding, both in type and fabric, are sherds which represent large, very shallow, and low-rimmed vessels. The only use we can think of such vessels is for preparing the dough or for baking bread. Hand-made, of coarse gritty clay, uniformly well baked, the base or bottom is invariably very rough, whereas the surface and the rim, though unslipped, are tolerably smoothed. Though thus crude-looking the vessels are quite hard, like a stone, and reddish or blackish in appearance. Such vessels have served as baking pans, as they are until this day, but there are no traces of soot on the bottom of the vessel. (These are called Pādā and used as dough plates today).

- 25Aa. Fragment, low, slightly inturned rimmed shallow bottom, dark tan smoothed surfaces. 21224. NVT. III. iv. J (3).
 25Ab. Fragment, low, outgoing rounded rim, shallow bottom, dark tan smooth surface, coarse bottom. 14396. II. iii. D (11).
 25Ac. Fragment, smaller than the preceding with black surfaces and core. 8130. I. i. B (3).
 25Ad. Large fragment, having a slight groove at the junction of the base and the side, well burnished blotchy red and black rim and inner surface. 2646a. NVT. I. i. A (4).
 25Ae. Fragments much smaller than the preceding, uniformly reddish. 2646. NVT. I. i. (7).
 25Af. Large fragment, of a very low, flat rimmed vessel. Surface and colour as in 25Ad. 21945. NVT. III. iv.
 25Ag. Fragment, ashy grey, the coarsest of the whole lot, having straight outgoing side. 1430. NVT. III. D (2).

Fig. 25 (26, 26a)

In contrast to dishes-on-stand, these sherds represent simple painted dishes. Both the types recall T. 36 (Fig. 32-33) which seems to be a dish-on-stand.

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26. Fragment, dish, brown slip, worn out on the undersurface. The rim edge painted with black band, and the side with a double row of "hooks" and wavy lines, and perhaps a simple lattice band in the centre. 12417. NVT. I. i. F (2).
- 26a. Large fragment, dish, slightly thicker in the centre, light chocolate coloured slip, design as above, and in addition a lattice band in the centre. 1776. NVT. I. i. B (2).

Dishes and Bowls with Stand

No complete specimens were found, so it is unfortunate that no full idea can be had of these types of vessels, a knowledge which would have been interesting from a comparative point of view. However, it can be asserted that the Chalcolithic culture had a fairly large number of bowls and dishes with stand. These were painted as well as unpainted, and varied considerably in size from small wine or ice-cream cup-sized vessels to large fruit stand-like objects.

The unpainted ones have generally a fine red slip all over, the surfaces are smooth, but not polished. The cores of stems—whether hollow, or partly or fully solid, are blackish. The clay also seems to have contained a large number of concretions. For these having been removed have left small cavities in the surface.

In the painted variety there is nothing to add regarding the slip and the core. The designs in paintings are confined to the inside of the vessel, but rarely its outside, and to the outside of the base. Whether the stems were painted or not is unknown.

Three plates illustrate various types of stems, bases and in a few cases dishes and bowls with such stands.

Fig. 26 (27-27e)

Type 27 Stems of Dishes

27. Fragment of a very thick and probably high stem with a comparatively narrow hole. 3296. NVT. I. i. D (3).
- 27a. Fragment of a thick and tall stem, with a hole becoming narrow at the top. 20743. NVT. I. i. D (3).
- 27b. Fragment of a slightly thinner stem. 11481. I. ii. A (1).
- 27c. Fragment of a stem, thinner and having a very narrow tapering hole through it. 24078. NVT. III. v. B (3).
- 27d. Fragment, stem, thinner but with a wider hole. 2553. NVT. I. i. F (3).
- 27e. Fragment, stem, very thin and small, with a narrow hole; polished red exterior. 7768. NVT. I. i. A (5).

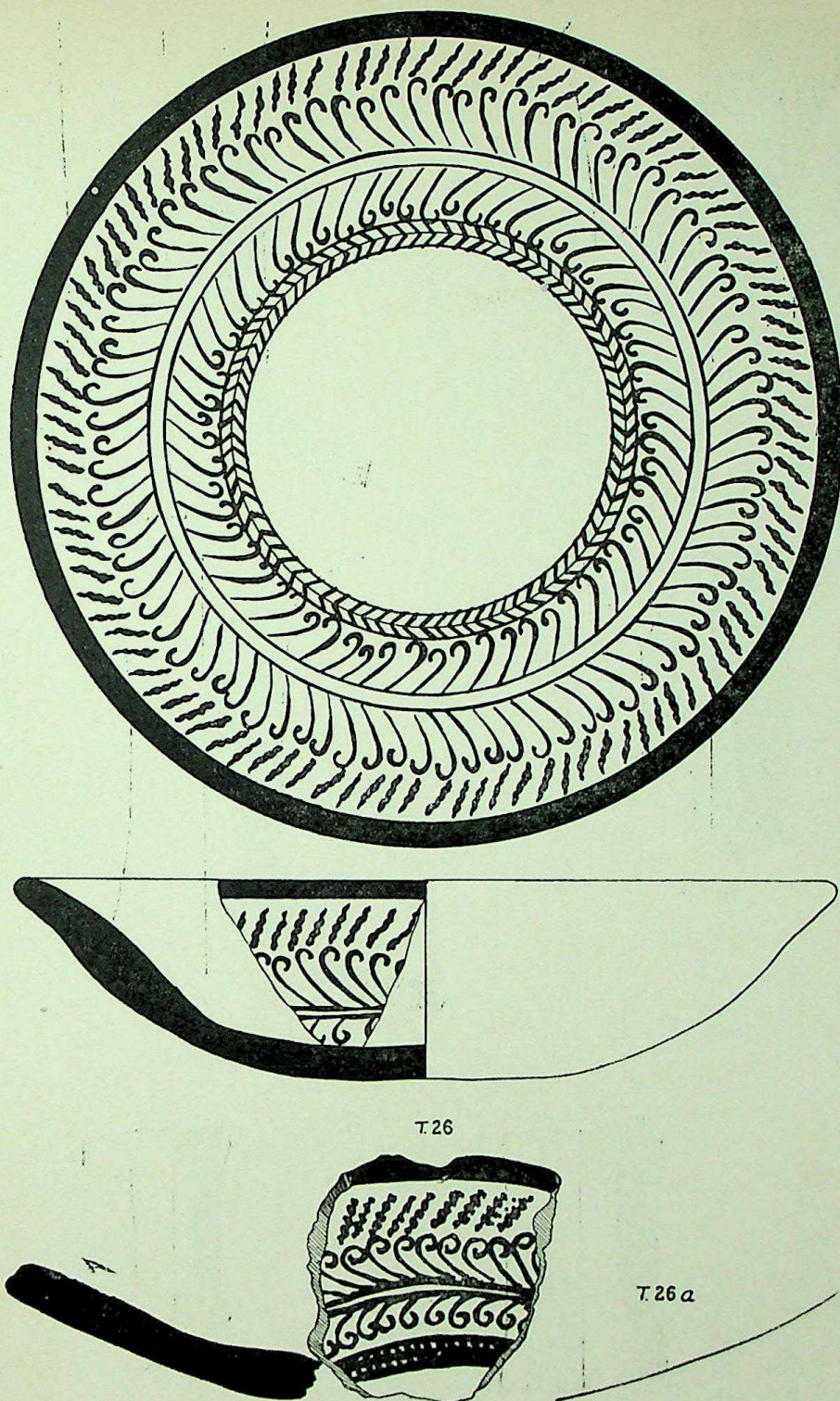
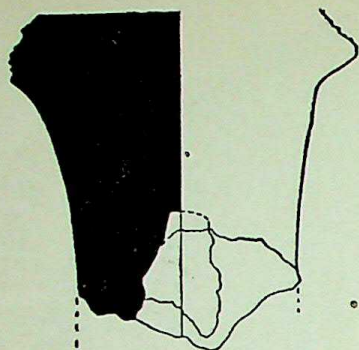
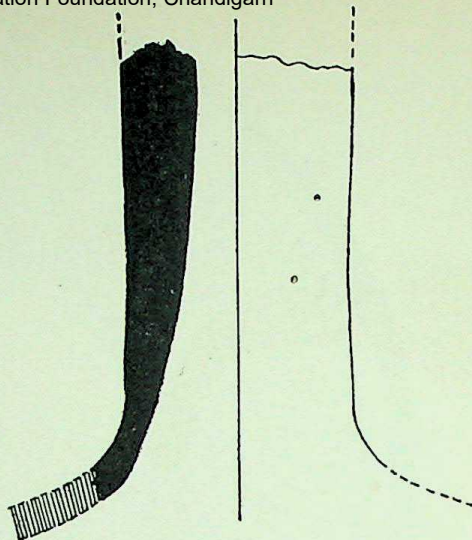


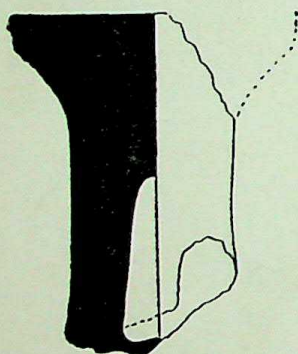
Fig. 25 Types 26-26a [1] : Painted dishes, NVT. Period III. (See p. 99)



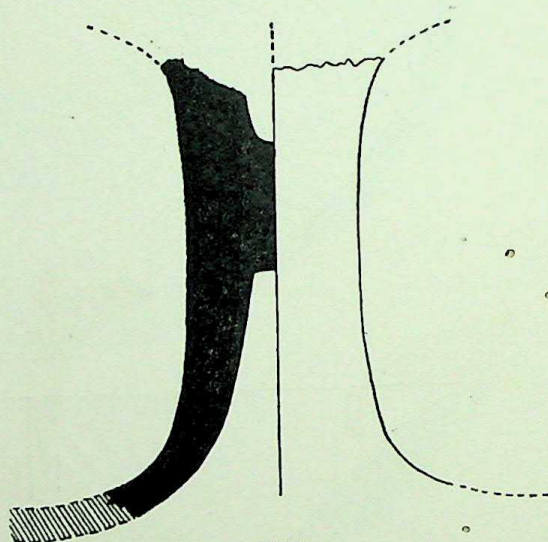
T.27



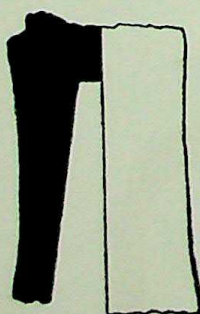
T.27a



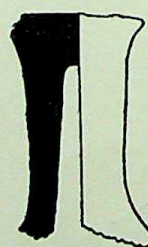
T.27b



T.27c



T.27d



T.27e

Fig. 26 Types 27-27e [$\frac{1}{2}$] : Stems of dishes with stand. NVT. Period III. (See p. 100)

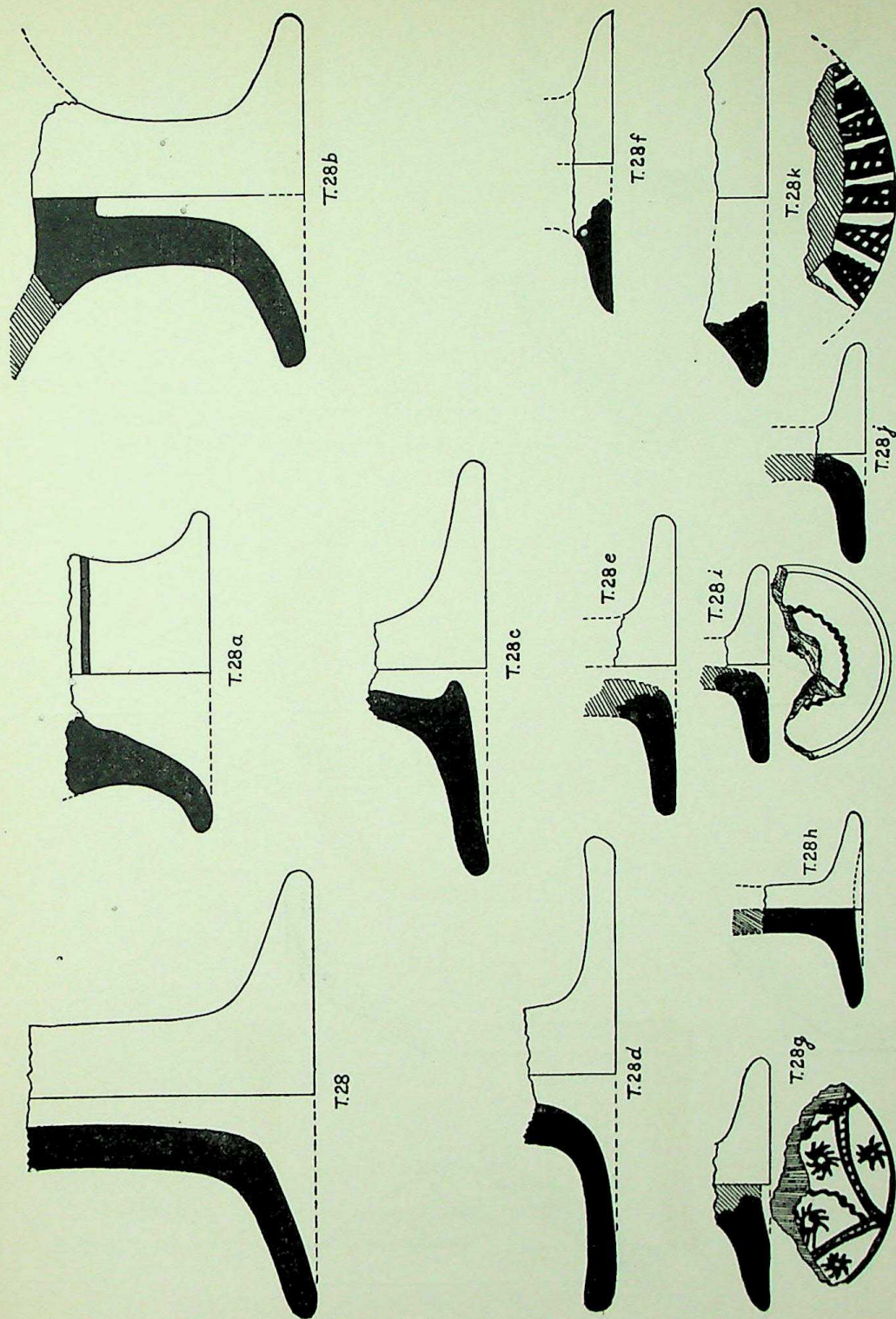


Fig. 27 Types 28-28k [†] : Stems and bases of dish or bowl. NVT. Period III. (See p. 101)

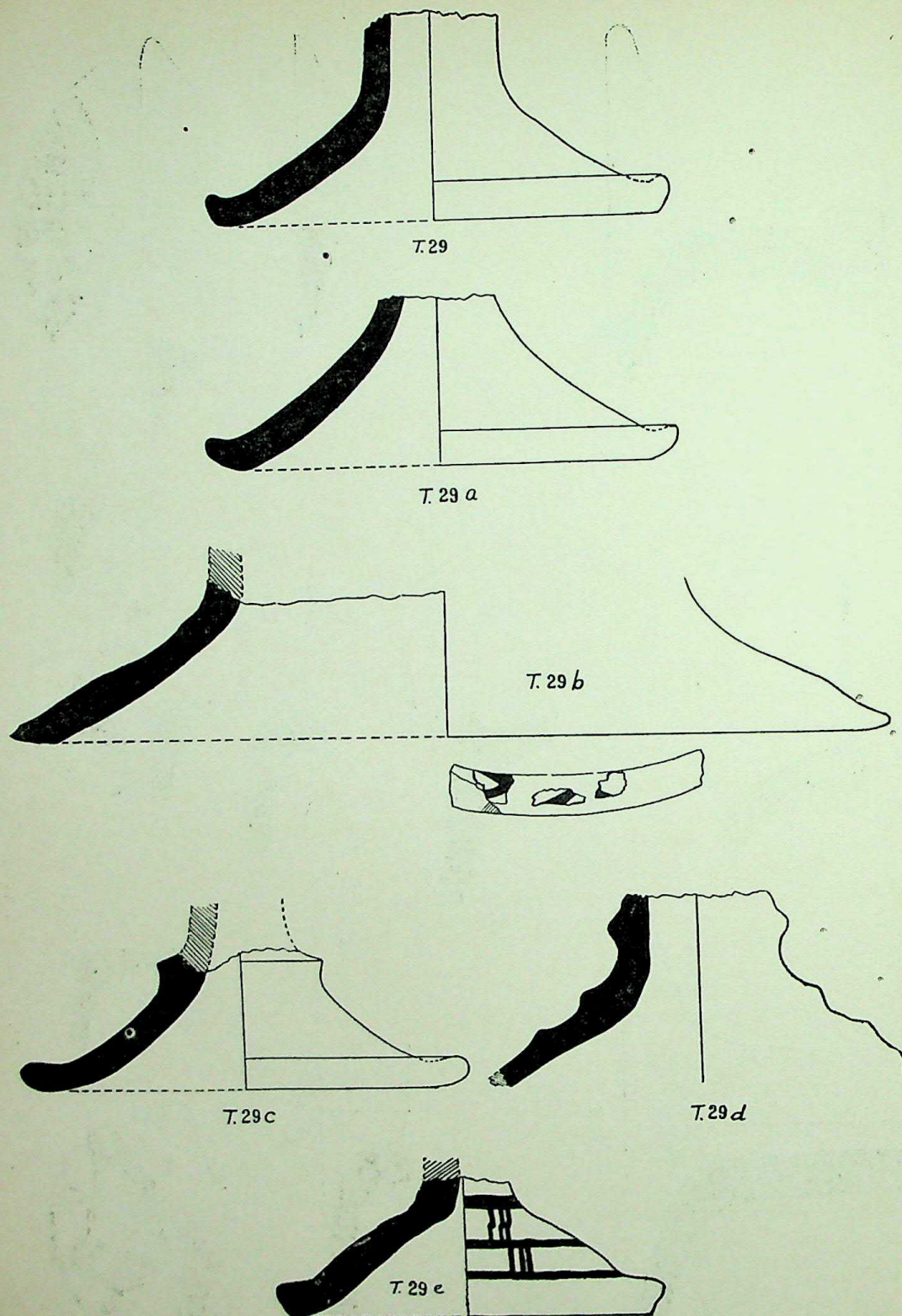


Fig. 28 Types 29-29e [$\frac{1}{4}$] : Bases of stands. NVT. Period. III. (See p. 101)

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Fig. 27 (28-28k)

Type 28 Stems with bases

- 28. Fragment, stem with a slightly concave base, and narrow hole. 1758. NVT. Surface.
- 28a. Fragment, stand, with a black band round the neck, and outturned edges of the base. 11535. NVT. I. ii. B (1).
- 28b. Fragment, short stem, with a slightly concave small base. 14864. NVT. II. iii. Pit. II.
- 28c. Fragment, base almost flat. 20743. NVT. II. iii. B (12).
- 28d. Fragment, base, almost flat, with rounded edges. 14861. NVT. II. iii. Pit. II.
- 28e. Fragment, base, flat, rounded edges. 14256. NVT. II. iii. B (10).
- 28f. Fragment, base, with bevelled edges. 14529. NVT. II. iii. B (12).
- 28g. Fragment, base, with bevelled edges and painted. 14529a. NVT. I. i. B (5).
- 28h. Fragment, concave base, bevelled edges, narrow stem. 21351. NVT. III. iv. K (2).
- 28i. Fragment, base, bevelled edges, narrow stem, light brown slip painted with a wavy chainlike design around the stem. 20185. NVT. III. iv. B (2).
- 28j. Fragment, complete small base (in five pieces), almost flat with rounded edges. 10196a. NVT. I. i. F (6).
- 28k. Fragment, base, plano-convex, light chocolate brown slip, with black hatched triangles on the upper surface, and black band on the underside along the periphery. 20185a. NVT. Surface.

Fig. 28. (29-29e)

Type 29 Bases of Stands

- 29. Fragment, base, highly concave inside with tubular stem, and upturned edges. 24270. NVT. III. v. B (6).
- 29a. Fragment base, as in T.28, polished red surfaces. 21461. NVT. III. iv. K (4).
- 29b. Fragment, base, very broad and concave, with bevelled edges, with traces of painting on the inside borders which is otherwise de-slipped. 22103. NVT. III. iv. L (4).
- 29c. Fragment, base, highly concave from within, with a ridge just where the stem begins. 24495. NVT. III. v. B (7).
- 29d. Fragment, base, highly concave from within, ribbed or with a number of grooves on the outside. 24142. NVT. III. v. B (5).
- 29e. Fragment, base, highly concave, with a band, as in T 28c, but broken. Edge of the rim faceted. Painted in black on the outside, a group of three vertical lines within horizontal. 6306. NVT. I. i. D (4).

Fig. 29 (30-30g)

Type 30 Dishes (ribbed from inside).

Comparatively small number of sherds represent these types of dishes. These are all unpainted. The red predominate, though there are a few black

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or grey. The former are slipped on both surfaces which are worn out. The core is blackish.

- 30. Fragment, dish, inner side has a glossy blackish slip, the rim portion having three ribs or ridges and two shallow grooves. The rim edge is faceted out. 24256. NVT. III. v. B (6).
- 30a. Fragment, dish, almost similarly ribbed. Unslipped and greyish black, wheel-made. 2681. MHSR. V. i. H (8).
- 30b. Fragment, dish, deeper, with a more projecting rim-edge. 1158?. NVT. I. ii. C (1).
- 30c. Fragment, dish, red ware, having narrower grooves alternating with a broader, shallower groove. 22721. NVT. III. iv. T (2).
- 30d. Fragment, dish, grooved and ribbed, with a more pointed and projecting rim edge. 22248. NVT. III. iv. M (4).
- 30e. Fragment, dish, with well spaced grooves. 22032. NVT. III. iv. L (4).
- 30f. Fragment, dish or basin with well spaced grooves and faceted rim edge. 24133. NVT. III. v. B (5).
- 30g. Fragment, dish, with well-marked ridges. 24266. NVT. III. v. B (6).

Fig. 30 (31-31b, 32-32a, 33-33a, 34-34A)

This is a mixed plate illustrating

- (i) Dishes or bowls on stand, having broad, flat rims.
- (ii) Bowls with tapering sides.
- (iii) Unique small stand.

All are unpainted, have a reddish slip and generally a blackish core.

Type 31 Dishes on stand with broad rim

- 31. Rim fragment, sturdy dish, fine red polished slip surface of the rim, but the inner bowl or base part was black, and comparatively thin. So also the underside, which is also coarse and unpolished. 402. MHSR. V. i. A (3).
- 31a. Rim fragments similar but bigger and having a carinated base. Fabric identical. 621. MHSR. V. i. A (3).
- 31b. Rim fragments, dish, but shallower and having a thinned bevelled rim edge. The fabric also different. 22408. NVT. III. iv. M (5).

Type 32 Bowls with stand

- 32. Fragment, base and stump of small bowl with stand, coarse red slipped surfaces.
- 32a. Stump only. 22163. NVT. III. iv. M (2).

Type 33 Bowl with inturned side

- 33. Fragment, bowl, (or base ?) of a bowl with stand (?) smooth brown slipped surfaces, with thin bands. 14256a. NVT. I. i. H (3).
- 33a. Complete bowl with stand, unslipped, coarse, red surfaces, slightly broken at the base, and along the rim. 80000. NVT. I. i. A (3). In brick-like platform.

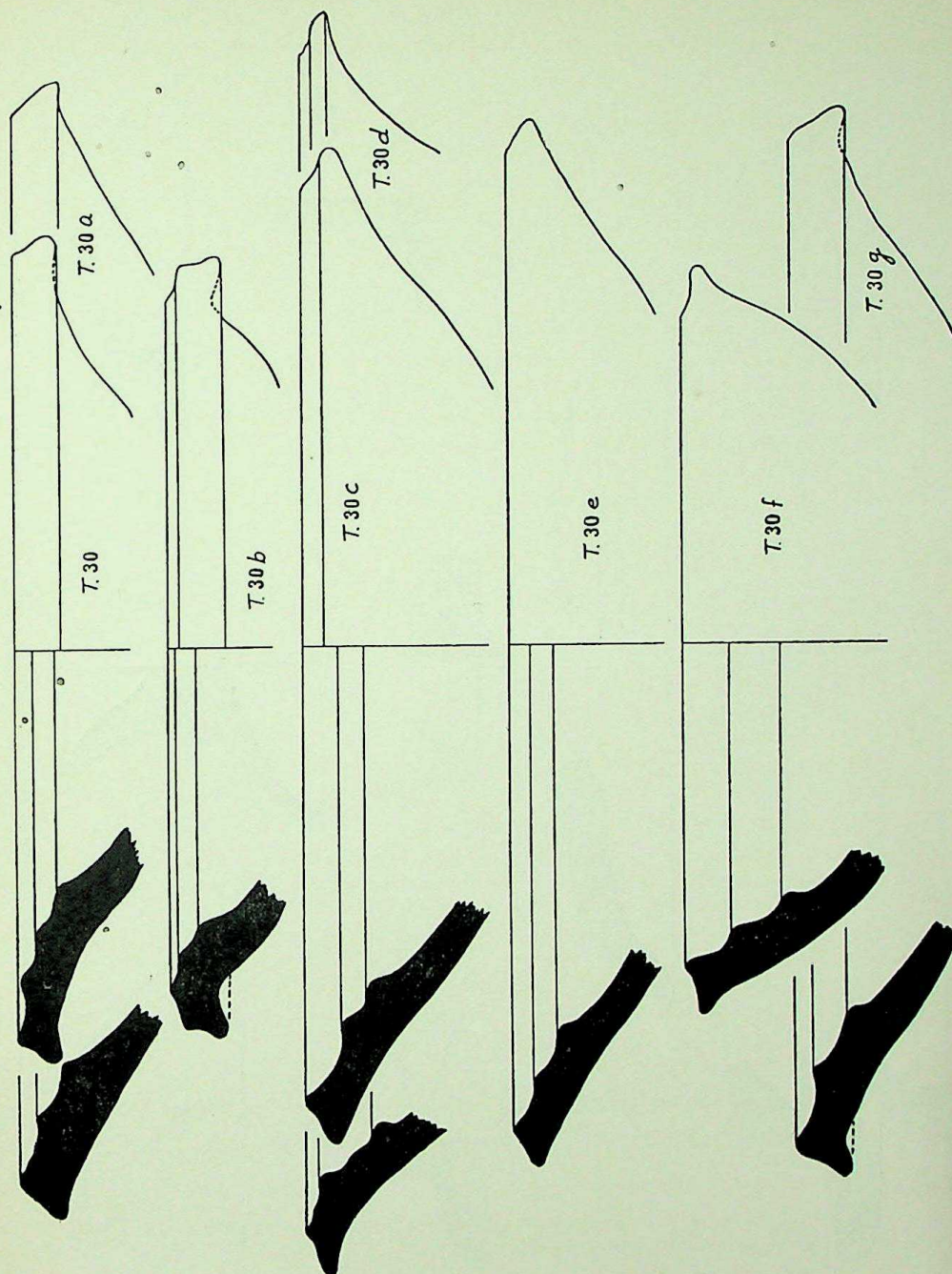


Fig. 29 Types 30-30g [1] : Ribbed dishes with stand. NVT. Period III. (See p. 101)

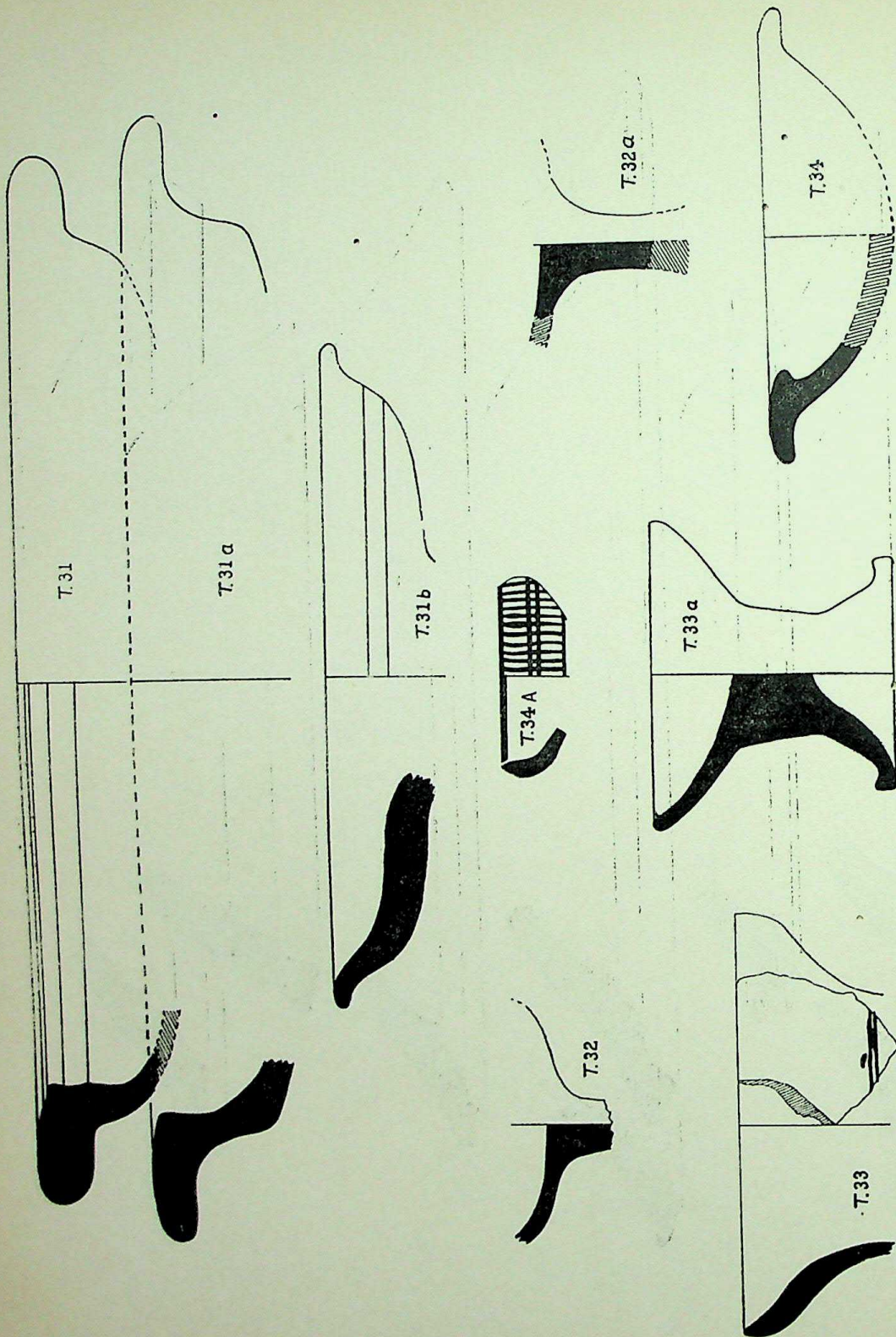


Fig. 30 Types 31-34 [31] : Dishes and bowls with stand. NVT. Period III. (See p. 102)

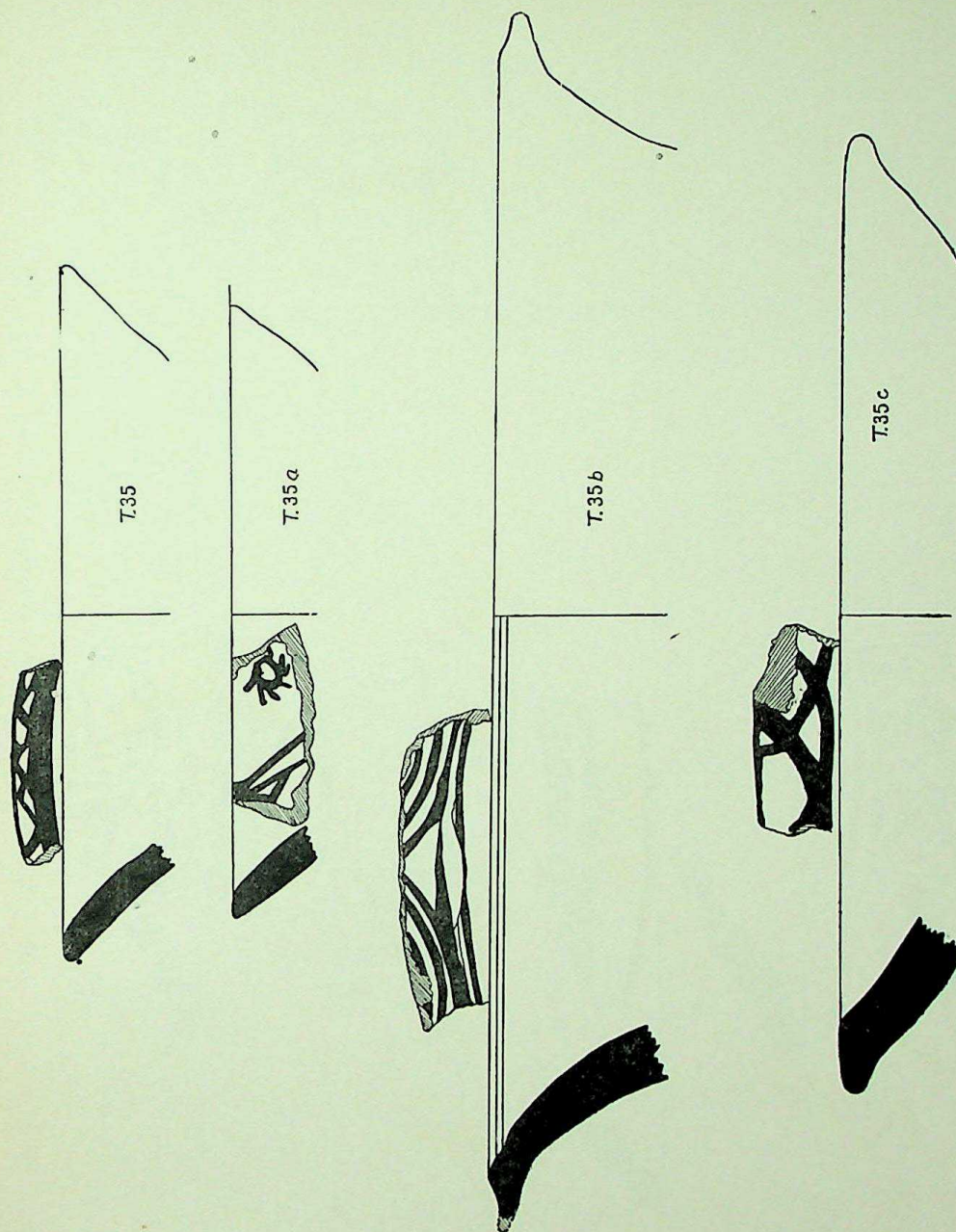


Fig. 31 Types 35-35c : Dishes with stand. NVT. Period III. (See p. 103)

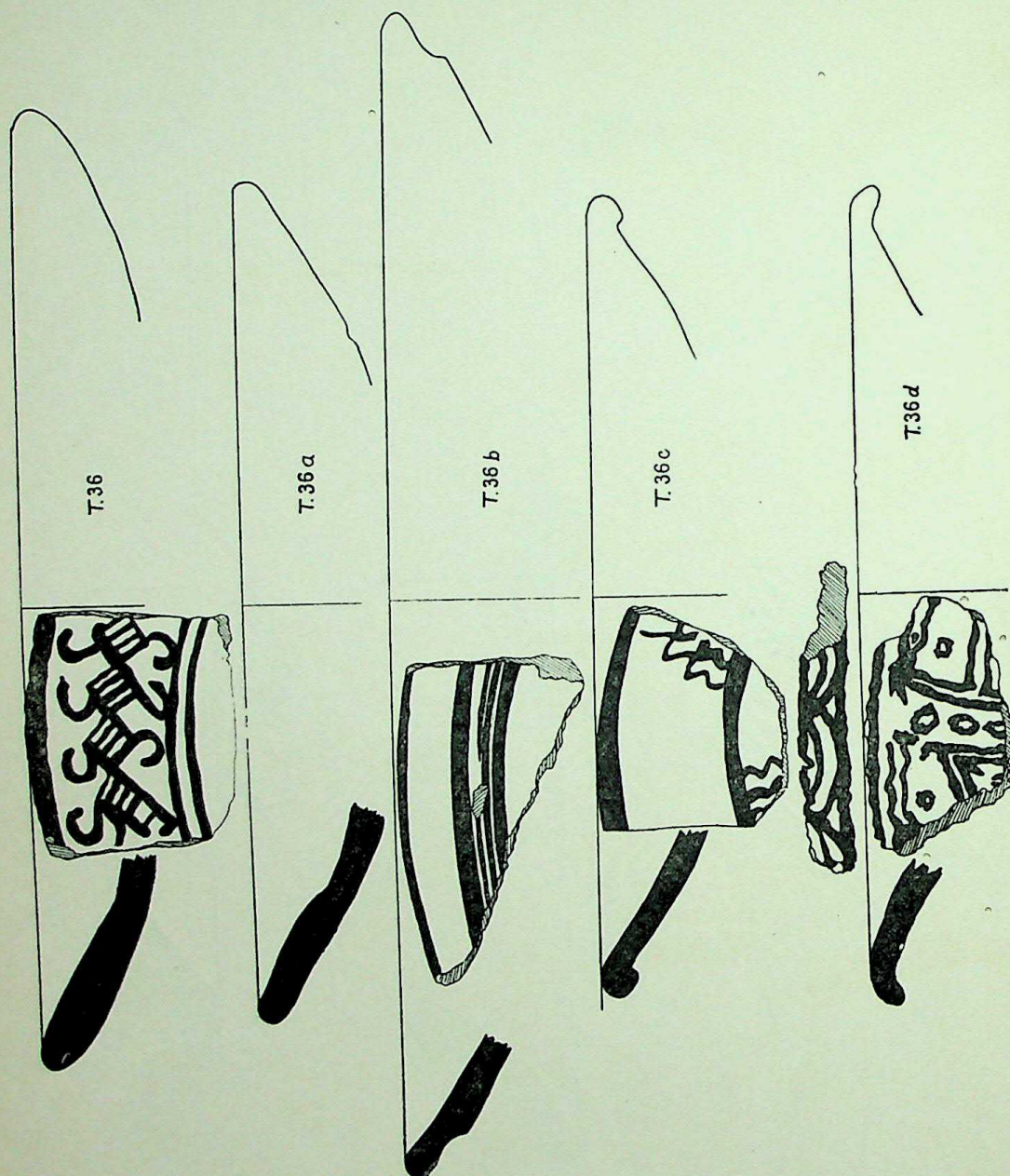


Fig. 32 Types 36-36d [$\frac{1}{2}$] : Painted dishes with stand. NVT. Period III. (See p. 103)

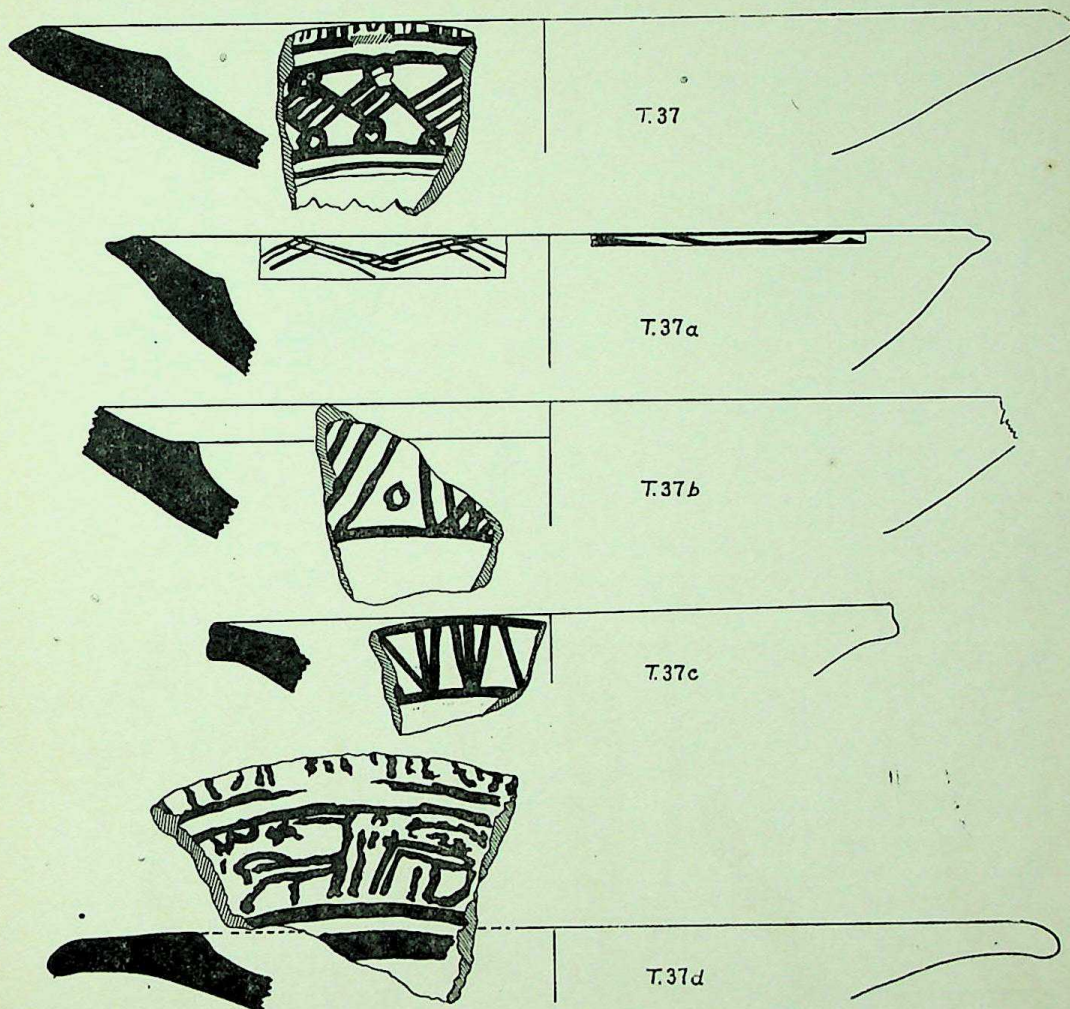


Fig. 33 Types 37-37d [$\frac{1}{2}$] : Painted dishes with stand. NVT. Period III. (See p. 103)

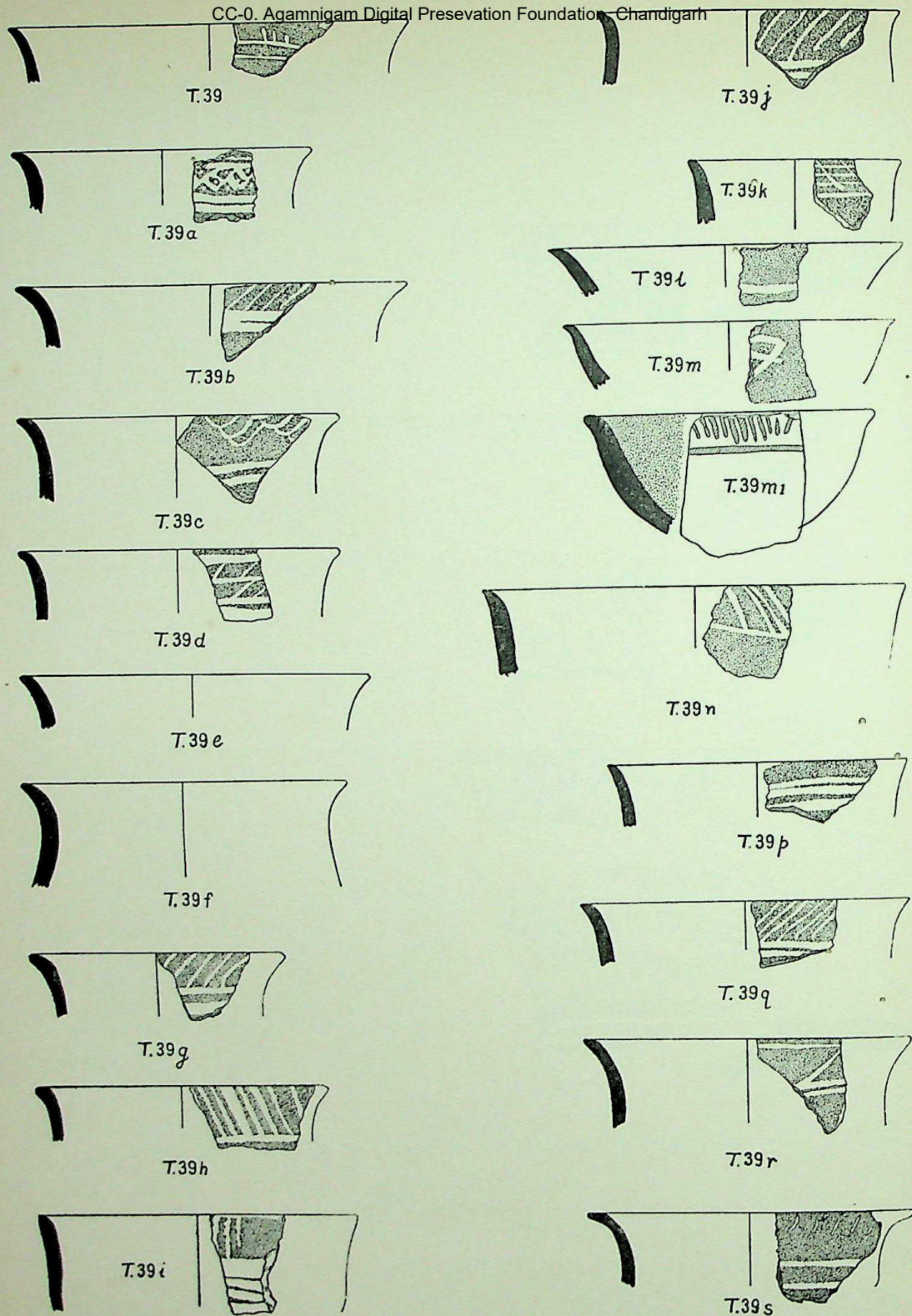


Fig. 34 Types 39-39s (1/2) : Bowls Black-and-Red ware with paintings in white. NVT. Period III. (See p. 104)

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Type 34

34. Fragment, bowl with broad, flat rim, black unslipped ware. 23036. NVT. III. M. iv.(3).
 34A. Small ovaloid stand open at both ends, faint vertical and horizontal lines over a red slipped surface.

Fig. 31. (35-35c).

Type 35

These are only small rim fragments evidently of painted dishes on stand. But they are too small to give any definite idea of the shape. The surfaces are red slipped, matt, coarse and worn out.

35. 8182. NVT. I. i. C (5).
 35a. 1033. NVT. I. i. C (2).
 35b. Large sherd, with faceted and bevelled edge. Much worn out. 2345. MHSR V. i. H (7).
 35c. Slightly smaller than T 35b, but has a much coarser under surface. 2342. MHSR V. i. H (7).

Fig. 32 (36-36d)

Type 36

These dishes on stand (?) have (i) a slight depression, as the flat sloping rim is thicker or (ii) there is a groove on the outer side below the rim or (iii) the rim is clubbed or (iv) the rim is everted. Generally painted on the dish surface, but sometimes on the outer side.

36. Large fragment, coarse red slipped surface, almost effaced painting. This type very much resembles T. 26. 2214. NVT. I. i. G (2).
 36a. Large sherd, very much worn out surfaces, unpainted. Well marked depression inside. 8636. NVT. I. i. D (5).
 36b. Fragments having a ledge and painted on the outside. 5131. NVT. I. i. A (4).
 36c. Fragment, clubbed rim, smooth bright red slip. Painting very faint. 1033a. NVT. I. i. A (4).
 36d. Fragment, everted rim, with animal design.

Fig. 33 (37-37d)

Type 37

In these dishes the rim is broad and flat and has a well marked ridge. (Compare T. 31).

37. Sherd, light chocolate, worn out surfaces. 23730. NVT. III. v. A (7).
 37a. Large sherd, sturdy fabric, painting very faint. 23392. NVT. III. v. A (6).
 37b. Small sherd, rim, edge broken. 20560. NVT. III. iv. D (2).
 37c. Small sherd. 21999. NVT. III. iv. L (4).
 37d. Large sherd with a broad rim or brim. Surfaces worn out and painting blurred. 22739. NVT. III. iv. A (1).

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(B) Painted Black-and-Red Ware

The sherds of this ware are confined mostly to the lowermost layers of Period III. They are also comparatively very few, about 100; generally rim fragments of three or four types of bowls and probably a dish. These are grouped under :—

- (i) Cups or bowls with outgoing sides.
- (ii) Ovaloid and semi-circular bowls with rounded or carinated belly and indrawn short rim.
- (iii) dish (?).

The ware is made on inverted firing technique and is generally fine as a result of fast wheel, thick to thin walls, well levigated clay, and burnishing. Whether the gloss is due to a slip—partly red or tan and partly black is difficult to say from the fragmentary sherds, without a more scientific examination. Almost all are painted in faint white straight or oblique lines, overlapping triangles, or vertical wavy lines and almost invariably accompanied by horizontal band or bands. For the main types of designs see Fig. 53, and page 127.

Fig. 34 (39-39s)

Type 39 Cups or bowls with outgoing sides

This type might be divisible into a number of sub-types, according to the nature of the bevelling of the rim or the curvature of the side. But in the absence of more precise forms, this is not done.

- 39. Rim fragment, very thin, glossy black inside, red and black outside, very faint whitish horizontal lines, and almost imperceptible vertical strokes on the upper horizontal line. 12482. NVT. I. i. C (6).
- 39a. Rim fragment, glossy ashy tan surfaces, with paintings probably originally in white, for now the lines appear light black. (If this is not so, then the sherd belongs to the white or tan slipped ware). Simple parallelograms with dots and horizontal lines. 4027. NVT. III. iv. K (2).
- 39b. Rim fragments, black topped, reddish below with faint whitish bands and oblique lines. 24254. NVT. III. i. B (6).
- 39c. Similar to T 39b, but having faint arches on the outside. 23384. NVT. III. v. A (6).
- 39d. Rim fragment, matt black surfaces with faint white horizontal and vertical lines on the outside. 10429. NVT. I. i. C (6).
- 39e. Rim fragment, black topped and red below with probably whitish slip on both sides. 22639. NVT. III. iv. T (2).

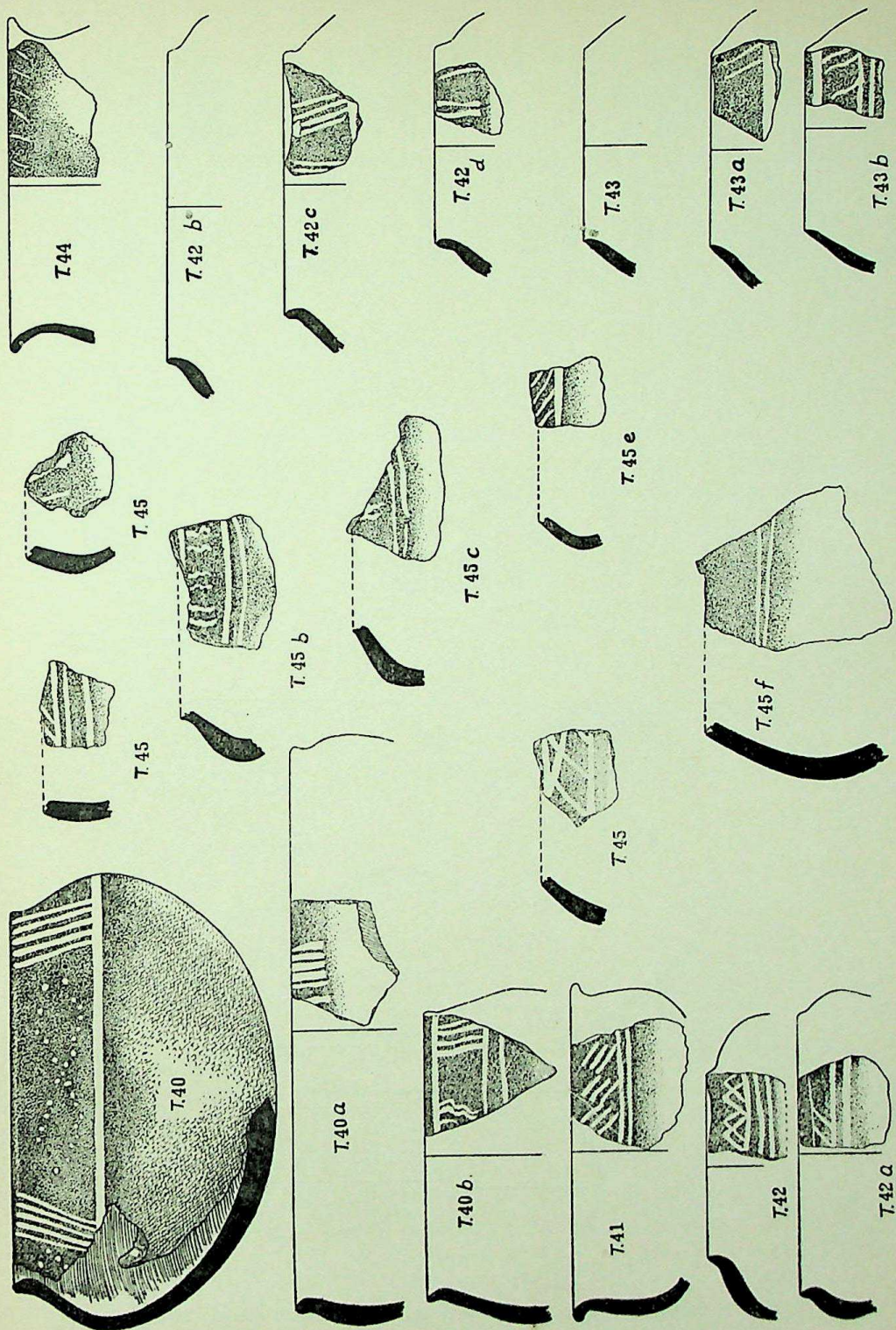


Fig. 35 Types 40-45f [4]: Ovaloid bowls. NVT, Period III. (See p. 105)

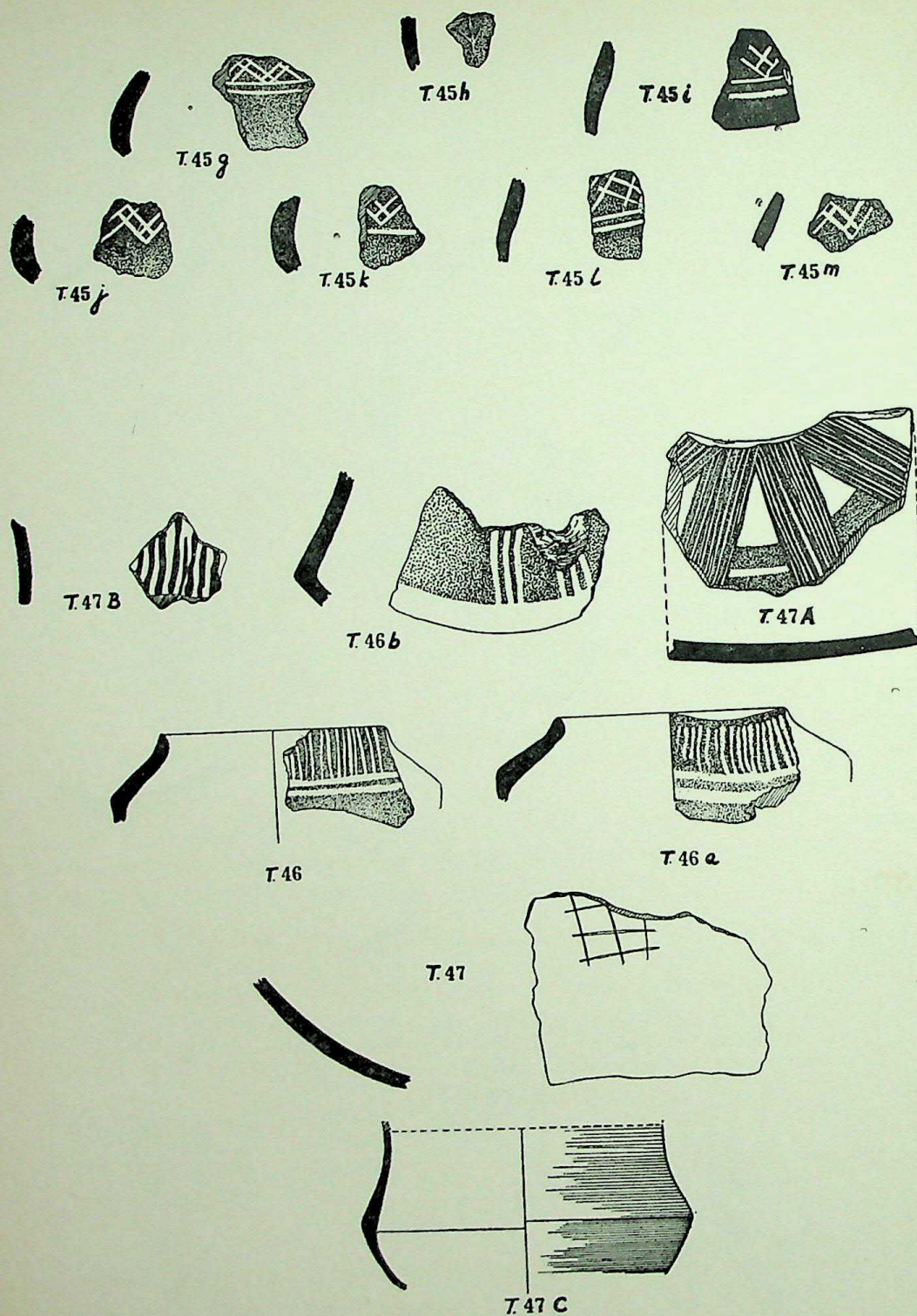


Fig. 36 Types 45g-47C [$\frac{1}{2}$] : Black-and-Red and Tan ware. NVT. Period III. (See pp. 106 and 116)

POTTERY OF PERIOD III

- 39f. Fragment, rim, convex side, otherwise similar to above (See below T. 44 Fig 35). 11143. NVT. I. i. E (7).
- 39g. Rim fragment, moderately glossy surfaces, black inside, and black-and-red outside with faint white oblique strokes and horizontal lines. 24450. NVT. III. v. B (7).
- 39h. Similar to above with whitish strokes from left. 24252. NVT. III. v. B (4).
- 39i. Rim fragment, bowl with almost straight sides, glossy ashy black surfaces with faint strokes on the rim. 22894. NVT. III. iv. C (2).
- 39j. Rim fragment, glossy black inside, black and red outside with thick oblique strokes. 23385. NVT. V. A (6).
- 39k. Rim fragment, ashy or greyish matt surfaces with well marked white oblique strokes from the left. 451. MHSR. III. i. (6).
- 39l. Rim fragment, cup or bowl with straight outgoing sides. 23694. NVT. III. v (7).
- 39m. Rim fragment, almost hemispherical bowl with outgoing sides, and thinned edges, greyish matt surfaces with perhaps parallelograms in white. 24459. NVT. III. v. B (7).
- 39m₁. Large fragment, thick, matt, tan and red outside with vertical faint white strokes along the rim, black inside. 10406. NVT. I. i. G (6).
- 39n. Rim fragment, bowl, matt, black topped and white below, with oblique strokes from the left. 60049. NVT. III. v. A (7).
- 39p. Rim fragment, small bowl, black and red matt surfaces with irregular horizontal bands. 12327. NVT. I. i. F (5).
- 39q. Rim fragment, glossy black-and-red surfaces with irregular oblique strokes from right and horizontal bands. 23693. NVT. III. v. A (7).
- 39r. Rim fragment, matt, greyish black inside, tan outside, with very faint design in white. 23689. NVT. III. v. A (7).
- 39s. Rim fragment, bowl with flat rim, small oblique strokes on the rim and well spaced horizontal white bands. 12469. NVT. I. i. H (6).

Fig. 35 (40-40b, 41, 42a-42d, 43-43b, 44, 45a-45f)

Type 40 Ovaloid Bowls

40. Almost a complete ovaloid bowl, thick-walled, round-bottomed, upper half black, lower brownish matt. Well marked group of oblique strokes and dots forming elongated parallelograms above the groove at the belly. (Similar, but with broken rim edge. 22892. NVT. III. iv. C (2). *Not illustrated.*)
- 40a. Thick sherd, the clay shows specks of mica. 24045. NVT. III. v. B (5).
- 40b. Sherd with glossy surface, and three horizontal grooves. 124121. NVT. I. i. B (6).

Type 41

41. Semi-circular bowl with everted rim. Otherwise as in T 40b. 42285. NVT. I. i. C (8).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Type 42

42. Sherd, ovaloid with indrawn short rim. Faint overlapping zigzags on three horizontal bands. 9335. NVT. I. i. B (6).
 42a. Sherd, bowl, with broader mouth than in T 42. 23690. NVT. III. v. C (7).
 42b. Sherd, 24451. III. v. (7).
 42c. Sherd, 24044. III. v. (7).
 42d. Sherd, smaller, with groups of vertical lines. NVT. I. i. D (6).

Type 43

43. Sherd, inturned bevelled edges, probably without design. 2944. NVT. I. i. E (6).
 43a. Sherd, inturned bevelled edges, reddish slip over the black. 9936a. NVT. I. i. E (6).
 43b. Sherd, similar to above, but with slightly more pointed edges and different designs. 9936. NVT. I. i. B (6).

Type 44 Bowl with convex sides.

44. Sherds of a bowl with convex sides and outgoing rim. Very thin fabric with tan surface. 2467. NVT. I. i. H (6). *This type should have been grouped with T.39f. Fig. 34.*

Type 45-45f

These are sherds (belly portion) of comparatively very small and thick-walled vessels. Almost all are red below the shoulder or belly and black above with glossy surfaces.

45. 9946. NVT. I. i. (6).
 45a. 10641. NVT. I. i. (6).
 45b. 12291. NVT. I. i. B (8).
 45c. 2291. NVT. I. i. B (8).
 45d. 24443. NVT. III. v. B (7).
 45e. 12232. NVT. I. i. B (8).
 45f. Large sherd, smooth glossy black-and-tan outside and black inside. NVT. I. i. H (7).

Fig. 36 (45g-45m, 46-46b, 47)

- 45g. 9093. NVT. I. i. B (6).
 45h. 609. I. ii (1)—with a graffiti-like incision.
 45i. 10427. NVT. I. i. G (6).
 45j. 10134. NVT. I. i. G (6).
 45k. 10136. NVT. I. i. F (6).
 45l. 1233. NVT. I. i.
 45m.

POTTERY OF PERIOD III

Type 46. Bowl with carinated belly and short, indrawn straight vertical rims.

46. Rim and shoulder fragment, glossy black and tan outside, and tan inside. A row of faint vertical stokes along the shoulder and two parallel horizontal bands. 447. MHSR. III. i. H (7).
- 46a. Similar to above. 448. NVT. III. iv. I (4).
- 46b. Large fragment, shoulder and belly, rim gone, glossy black and tan outside and black inside. Group of three vertical lines along the shoulder. 446. MHSR. III. I. i (5).

Type 47 Dish (?)

47. Fragment, base of dish, black inside, red outside with graffitti design of rectangles. 240. NVT. III. v. B (4).

Unique Sherds

- 47A. A solitary sherd of black-and-red ware dish, with radial bands, composed of a group of concentric lines made by deeply rubbing with a blunt implement. This gives a polished surface. (One of the adjoining triangles having an unrubbed surface was experimented upon by rubbing a steel paper clip. When rubbed with the rounded end, it gave an identical polished stroke.) 2264. MHSR. V. (5)
- 47B. A solitary sherd, neck, of fine black polished ware with irregular vertical bands, made possibly by a similar technique as in T 47A. The entire surface might have been later polished. 23505. MHSR. V. i. H (7).
- 47C. See under Tan ware, p. 116.

(C) White-slipped Ware

This section includes sherds having a white or cream slip, and painting in black or purplish black. Their number is comparatively small, and as the distribution chart shows restricted to the lower layers of NVT.

According to the nature of the slip the sherds may be grouped into four main classes :—

- (i) Sherds having a thin whitish slip showing the red monochrome background underneath, with designs in black, or purplish black.
- (ii) Sherds having a comparatively thicker white, chalky slip, with designs in black or purplish black.
- (iii) Sherds with thick, white, chalky slip, resembling a coating of white paint, with designs in black. This coat or slip flakes off, and shows the underlying brownish or reddish clay surface.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- (iv) Sherds having a distinctly *original* creamy slip (as opposed to that which appears creamy because the white has become dirty).

In some (a few) cases the white-slipped surface is extremely smooth and glossy, evidently due to polishing.

In this ware the following principal types of vessels are available.

- (i) Bowls or cups with various sub-types.
- (ii) Bowls and dishes with stand.
- (iii) Dishes.
- (iv) *Lotā* or water-vessel.

Among the designs, usually in black or purplish black, we have the undermentioned types :—(See Figs. 42 and 53) For further details see p. 127.

- (i) Dancing human figures.
- (ii) Wavy horned goats or deer.
- (iii) Geometric designs, having oblique lines, oblique rectangles, solid black diamonds.
- (iv) Vertical wavy lines.

The shapes indicate that almost all are small, open vessels, such as dishes, bowls, cups, vases, or jars with wide mouths. These were used probably for eating or drinking the things off, rather than cooking. Some of these are so thin-walled that it is doubtful, if they were for daily use. From their rarity, some specialized use is suggested.

Since they are all coated with a thin or thick white slip, it is difficult to say whether they were hand or wheel-made. From some large sherds, e.g. No. 4655, a bowl with probably a stand, and a broad, flat, projecting rim painted with a double row of flag-like designs, it appears that some at least of the vessels were potted on a wheel. The clay contained a good deal of lime and sand particles. The firing in some cases has left the entire fabric brownish red, but in some cases it is greyish red, or completely black.

POTTERY OF PERIOD III

Chart showing the distribution of white-and-cream-slipped ware at Navdatoli and Maheshwar.

<i>White-slipped Ware : NVT</i>				<i>Cream-slipped Ware : NVT</i>			
Layer	Mound I	Mound II	Mound III	Layer	Mound I	Mound II	Mound III
1	—	—	2	1	—	—	5
2	—	—	8	2	—	—	17
3	—	—	5	3	—	—	14
4	3	—	16	4	1	—	23
5	8	—	11	5	6	—	45
6	52	—	14	6	39	—	24
7	35	—	52	7	25	—	15
8	4	—	9	8	3	—	—
9	—	—	—	Total			
10	—	—	—		74	—	144
11	—	—	—	MHSR. MD. III. Layer 7—1			
12	—	1	—				
13	—	6	—				
Total	102	7	117	Grand Total	White-slipped 226		
					Cream-slipped : 219		

Fig. 37 (48, 49a-49p)

Type 48 Hemispherical Bowl

48. Sherd, bowl, probably rounded base. Diamonds and parallelograms between horizontal lines. *22374. NVT. III. iv. M (5).

Type 49 Bowls with outgoing sides.

Slight variations in shape, thickness, or in designs yield diverse types. These are illustrated here only with a view to indicate the large range in one basic shape.

49a. Sherd, bowl, group of vertical wavy lines, between horizontal lines on the outside, and arches on the inside edge. *23028. NVT. III. iv. M (3).

49b. Sherd, bowl. 22383. NVT. III. iv. M (5).

49c. Sherd, bowl. 23082. NVT. III. iv. Pit (1).

49d. Sherd, bowl. 23625. NVT. III. v. A (6).

49e. Sherd, bowl. Intersecting arches on the inside edge. 22072. NVT. III. iv. L (4).

49f. Sherd, bowl. 21115 A. NVT. III. iv. I (4).

49g. Sherd, bowl. 24301. NVT. III. v. B (6).

* These sherds cannot now be traced.

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- 49h. Sherd, bowl, group of parallel vertical lines, and thick black on the inside edge. 20795. NVT. III. iv. G (1).
 49i. Sherd, bowl, group of stepped vertical lines, and double arches on the inside edge. 22079. NVT. III. iv. L (4).
 49j. Sherd, bowl. 22070. NVT. III. iv. L (4).
 49k. Sherd, bowl. 22377. NVT. III. iv. M (5).
 49l. Sherd, bowl, with latticed parallelogram design on the outside, and small thick vertical strokes between parallel bars on the inside edge. 21612. NVT. III. iv. K (4).
 49m. Sherd, bowl. 60069. NVT. III. iv. A (5).
 49n. Sherd, bowl, with design as in T 48. 21605. NVT. III. iv. K (4).
 49o. Sherd, bowl, with an indistinct design. 14751. NVT. II. iii. C (14).
 49p. Sherd, bowl, with a latticed (diamond) design, and intersecting arches forming a chain on the inside edge. 22373. NVT. III. iv. M (5).

Fig. 38 (49A, 50a-50e, 51a-51g.)

Type 49 A Bowl or cup with narrow (Conoid) bottom and outgoing sides.

- 49A Large sherd, bowl or cup with narrow bottom, outgoing sides, very much thinned at the mouth edge. Smooth thick cream slip inside, thinner outside, with groups of short parallel vertical lines between horizontal bands on the outside rim edge. 449. MSHR. V. i. H (7). (cf. SCHMID, F. E., *Excavation at Tepe Hissar*, Pl XI.)

Type 50a. Bowls with concave sides.

- 50a. Sherd, bowl, concave sides, vertical wavy lines between horizontal lines, and intersecting arches on the inside. 11325. NVT. I. i. G (7).
 50b. Sherd, bowl. 12445. NVT. I. i. G (6).
 50c. Sherd, bowl. 20994. NVT. III. iv. M. Pit 2.
 50d. Sherd, bowl, or a vessel with high concave-sided mouth. Rows of thick vertical arches suspended or touching thick bands of horizontal bands. 12494. NVT. I. i. (6).
 50e. Sherd, bowl, a pair of oblique lines suspended from thick band on the edge. 14691. NVT. II. iii. C (3).

Type 51 Bowls with tapering sides, slightly out-turned edges, and bulging belly.

- 51a. Sherd, bowl, latticed parallelogram between thick bands. 124451a, NVT. I. i. H (7).
 51b, c. Sherds, rim edge broken. Double row of parallelograms. 11182. NVT. I. i. F (7). 206. NVT. I. i. H (8).
 51d. Sherd, bowl, group of wavy vertical lines. 60017a. NVT. III. v. B (7).
 51e. Sherd, bowl. 10946. NVT. I. i. D (7).
 51f. Sherd, bowl, 60033, NVT. III. i. A (7).
 51g. Sherd, bowl. 60040. NVT. III. iv. A (7).
 51h. Sherd, bowl. 8962. NVT. I. i. G (5).

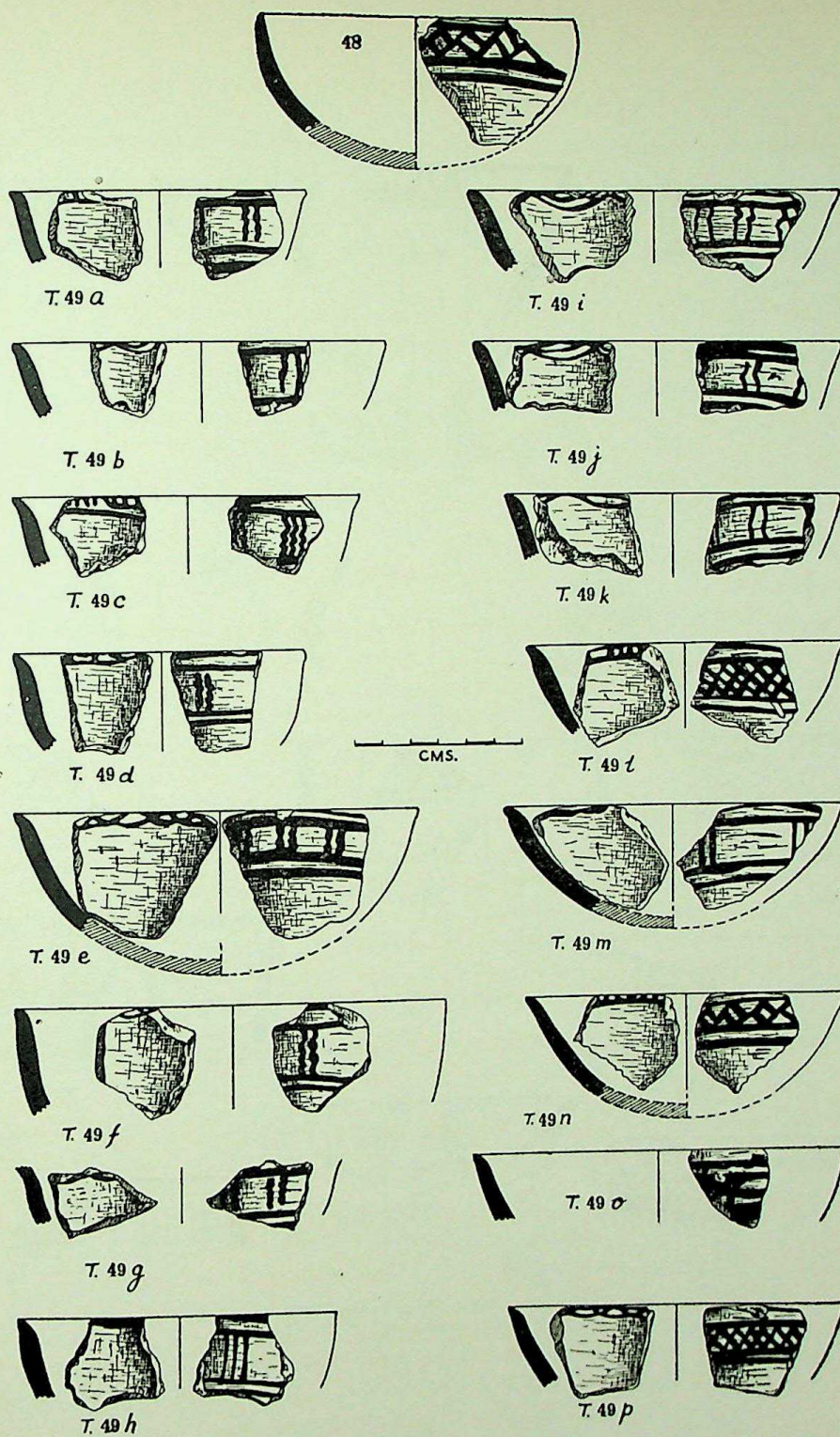


Fig. 37 Types 48-49p [1]: Bowls White-slipped ware. NVT. Period III. (See p. 109)

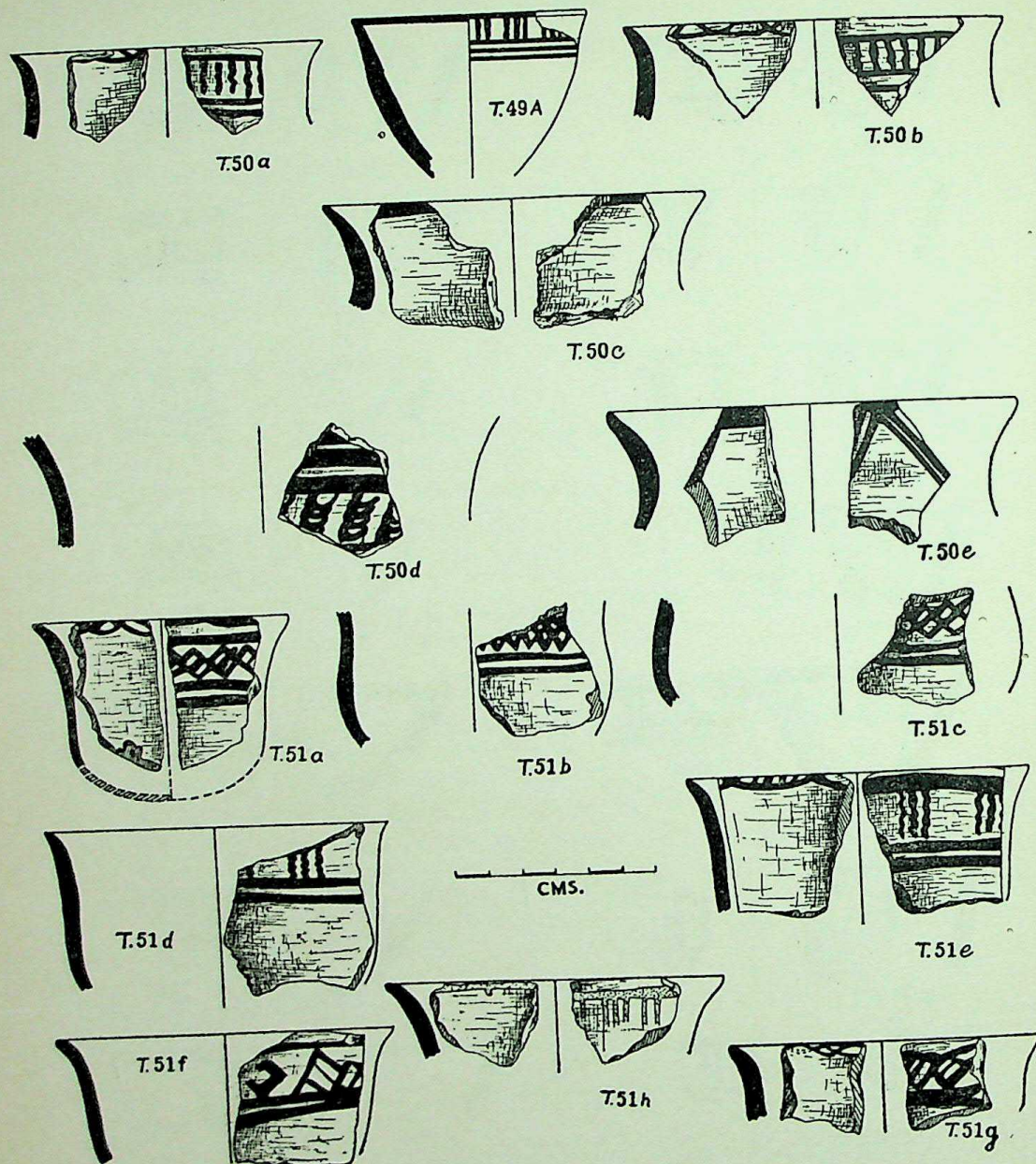


Fig. 38 Types 49A-51h [†]: Cups White-slipped ware. NVT. Period III. (See p. 110)

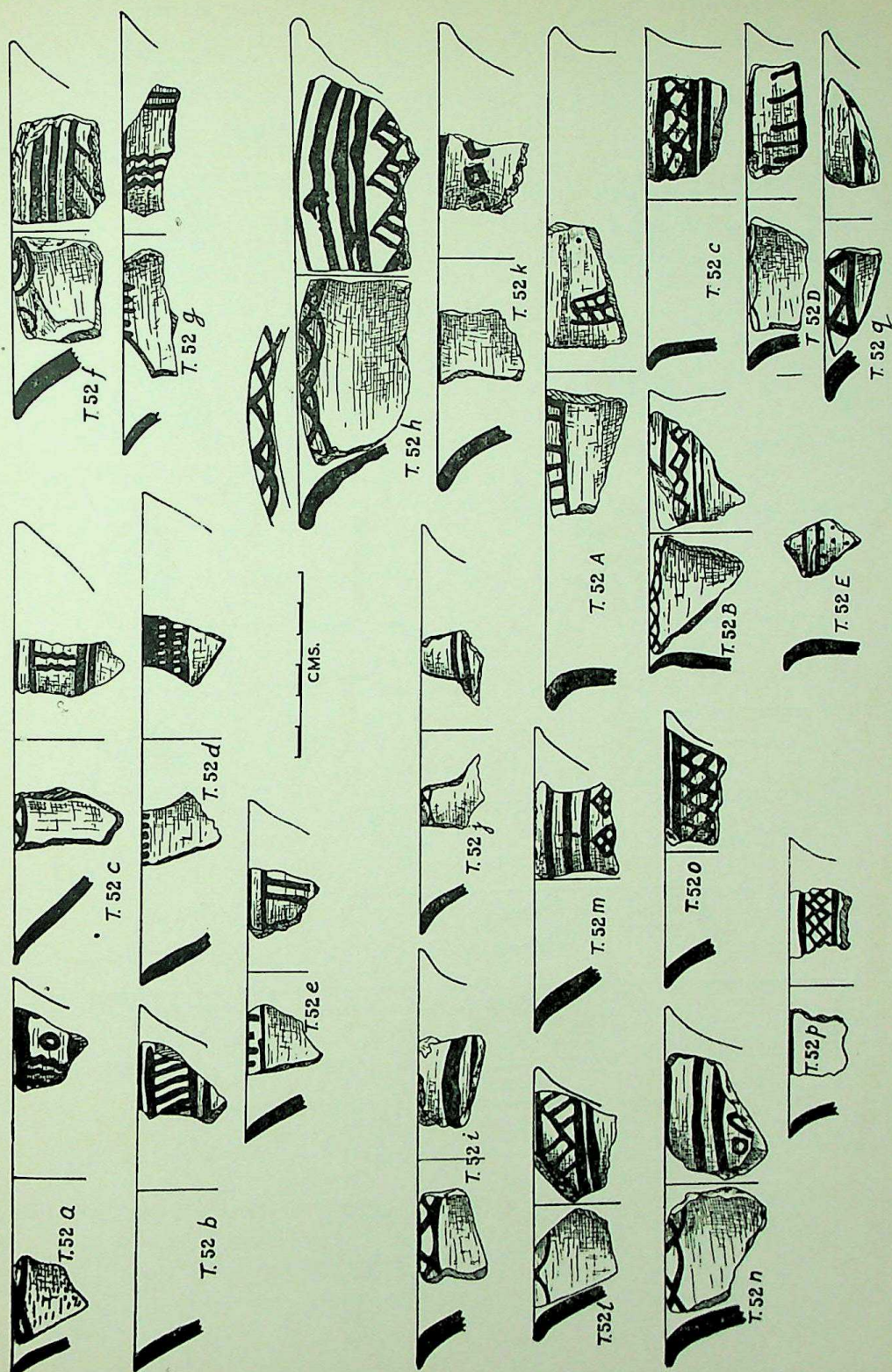


Fig. 39 Types 52a-52q, 52A-52E [1]: White-slipped ware, NVT. Period III. (See p. 111)

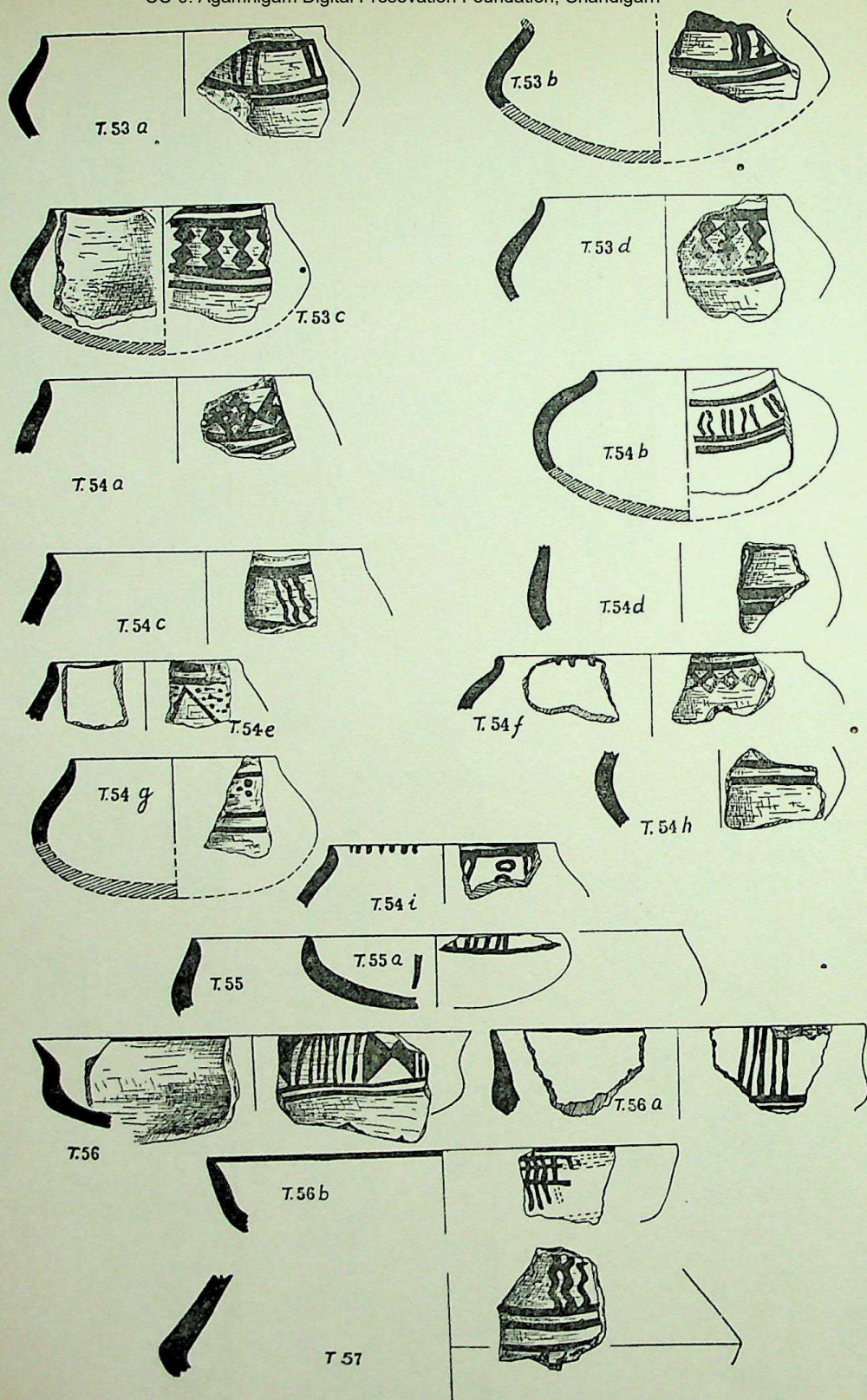


Fig. 40 Types 53a-57 [1] : White-slipped ware. NVT. Period III. (See p. III)

POTTERY OF PERIOD III

Fig. 39 (52a-52g; 52A-52E).

Type 52 Bowls with straight tapering sides, allied to T. 51, but more definite shape unknown. The sub-types give an idea of the varieties in design and bowl sizes.

- 52a. Sherd, bowl, thick glossy, creamy surfaces. Wavy vertical lines and a circle. 60016. NVT. III. v. A (7).
- 52b. Sherd, bowl. 14752. NVT. II. iii. C (14).
- 52c. Sherd, bowl. 23853. NVT. III. v. C (2).
- 52d. Sherd, bowl, slip, etc. similar to 52a. Simple horizontal lattice design, and short lines—vertically suspended from the edge. 22658. NVT. III. iv. I. (2).
- 52e. Sherd, bowl. NVT. Surface.
- 52f. Sherd, thick, double arches on the inside edge. 10085. NVT. I. i. F (6).
- 52g. Sherd, bowl. 60036. NVT. III. v. A (7).
- 52h. Sherd, large and thick, with shallow grooved sides. Thick bands and latticed parallelograms. Intersecting circles on the inside edge. 22085. NVT. III. iv. L (5).
- 52i. Sherd, bowl. 11144. NVT. I. i. F (7).
- 52j. Sherd, bowl. 24477. (or 4). NVT. III. v. B (7).
- 52k. Sherd, bowl. A row of horizontal hollow squares. 66028. NVT. III. v. A (7).
- 52l. Sherd, bowl. 60121. NVT. III. iv.
- 52m. Sherd, bowl. Three concentric lines and a row of horizontal latticed squares. 24465. NVT. III. v. B (7).
- 52n. Sherd, bowl. 60001. III. v. A (7).
- 52o. Sherd, bowl, a row of horizontal diamonds between two horizontal bands. 60008. NVT. III. v. A (7).
- 52p. Sherd, bowl. 22392. NVT. III. iv. M (5).

Type 52A-E Bowls with straight sides.

- 52A. Sherd, large bowl, straight sides, out-turned rim. Vertical latticed band. 14169. NVT. II. iii. A (9).
- 52B. Sherd, bowl. 23614. NVT. III. v. A (6).
- 52C. Sherd, bowl. 60018. NVT. III. v. A (7).
- 52D. Sherd, bowls with dashes or lines going up from a horizontal band.
- 52E. Sherd, bowl, dots under two horizontal bars. 14756. NVT. II. iii. C (14).

Fig. 40 (53-53d, 54a-54i, 55-55a, 56-56b, 57.)

Type 53 Bowls with carinated and bulging belly and indrawn short straight rim.

- 53a. Sherd, bowl, cream slip, group of vertical lines. 60027. NVT. III. v. A (7).
- 53b. Sherd, bowl. 60031. NVT. III. v. A (7).
- 53c. Sherd, bowl, very thin white slip, smooth surfaces. Solid diamonds. 12426. NVT. I. i. F (6).

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- 53d. Sherd, bowl, slightly thinner at the edge than T 53c. 12455. NVT. I. i. F (6); two others with smaller diamonds not illustrated. 12448. NVT. I. i. A (6). 11181. NVT. I. i. F (7).

Type 54a-54i Bowls with rounded, bulging belly and short straight rim.

- 54a. Sherd, bowl, probably rounded belly with latticed squares or parallelograms. 10835. NVT. I. i. C (7).
 54b. Sherd, bowl, rounded belly, thin cream slip, a row of irregular vertical lines round the neck. 11011. NVT. I. i. D (7).
 54c. Sherd, bowl. 21617.
 54d. Sherd, bowl, middle portion only.
 54e. Sherd, bowl, white slip, dots and triangle. 23301. NVT. III. v. M (5).
 54f. Sherd, bowl, a row of hollow diamonds. 24300. NVT.
 54g. Sherd, bowl, dots. 22386. NVT. III. iv. M (5). 27071. NVT. III. iv. L (4) not illustrated.
 54h. Sherd, bowl middle portion. NVT.
 54i. Sherd, bowl, fine, glossy white slip inside and out with a group of vertical lines and hollow circles in between. 483 MHSR. V. i. H (6).

Type 55 Dishes.

55. Sherd, small dish or bowl, cream slip. 12459. NVT. I. i. A (6).
 55a. Sherd, very small dish with inturned rim. Thin white slip over a red body. Thin vertical lines in white along the edge. 449a. MHSR. III. i. H (7).

Types 56-57

56. Sherd, dish, concave side, outgoing pointed rim. "Double axe" design between uneven vertical strokes. 5223. NVT. I. (6).
 56a. Sherd, dish, slightly concave side, outgoing side. 2398. NVT. I. ii. B (3).
 56b. Sherd, dish, straight, outgoing sides. 11670. NVT. I. ii. B (2).
 57. Sherd, vessel, carinated belly with sharply sloping sides. Thick white slip outside, inside coarse black. 12215. NVT. I. i. F (8).

Fig. 41 (58-62a)

Type 58-62

58. Sherd, very small, probably shoulder portion, matt cream slip with simple lattice design and a circle. 14171. I. II. iii. A (9).
 59. Sherd, vessel, flaring rim, constricted neck. 60006. NVT. III. v. A (7).
 60. Sherd of a large vessel, mouth with convex sides, sharpened edges, matt cream slip, surfaces very much pecked. 21679. NVT. III. iv. K (5).
 61. Large fragment of bowl, probably with thick stemmed base. Broad, flat rim. Thin white slip over coarse brownish surfaces. Wheel made. Broad, flat overhanging rim painted with a double row of "flag" or hatched, oblique parallelograms. 4655. NVT. III. v. (7).
 62. Base of a stemmed (bowl), cream slip, with groups of faint black lines radially painted on the upper surface. 60071. NVT. III. v. A (5).
 62a. Base and part of the stem. Smooth cream slip, worn-out edges of the base 21609. NVT. III. iv. K (4).

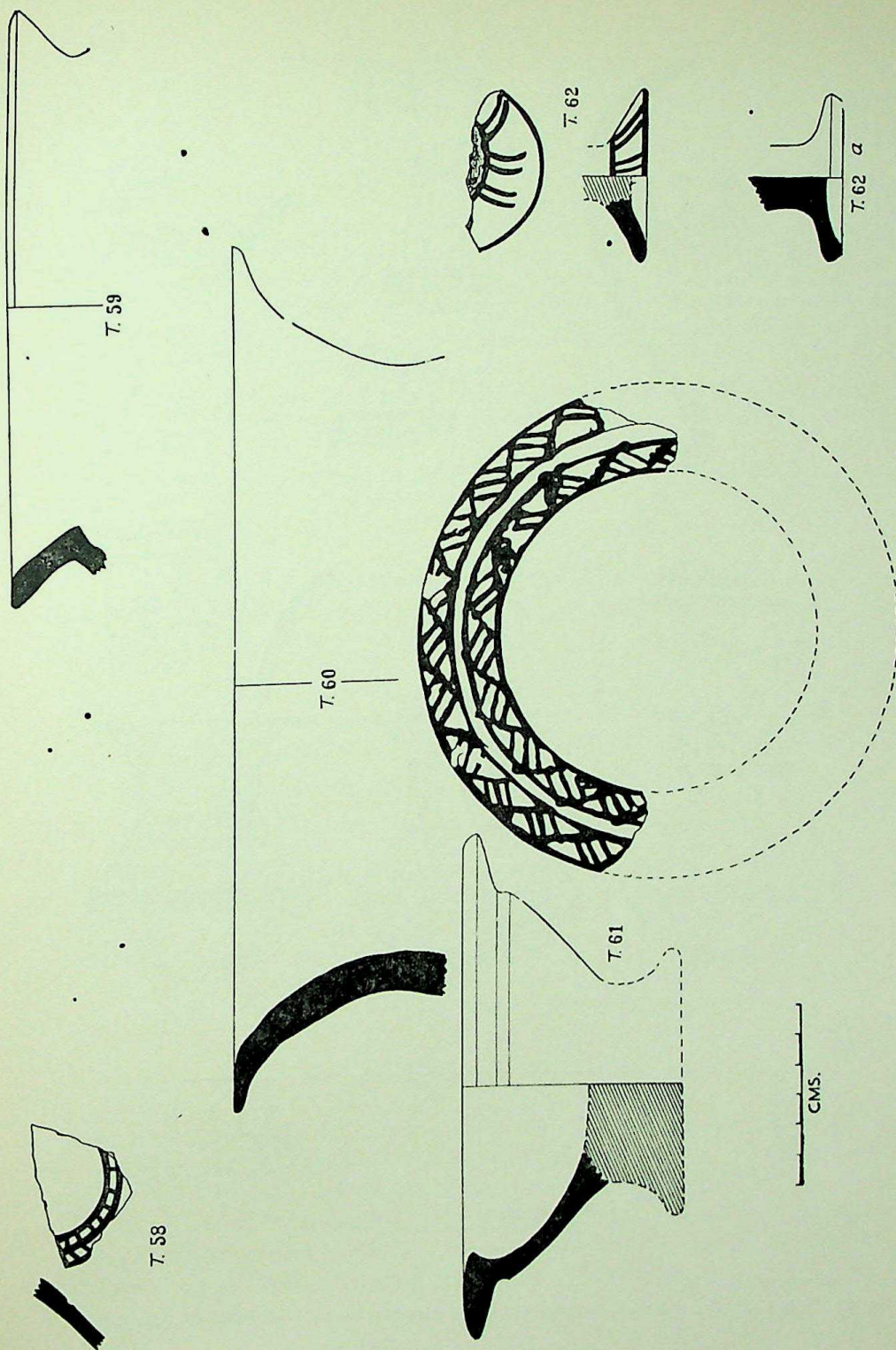


Fig. 41 Types 58-62a [H] : White-slipped ware. NVT, Period III. (See p. 112)

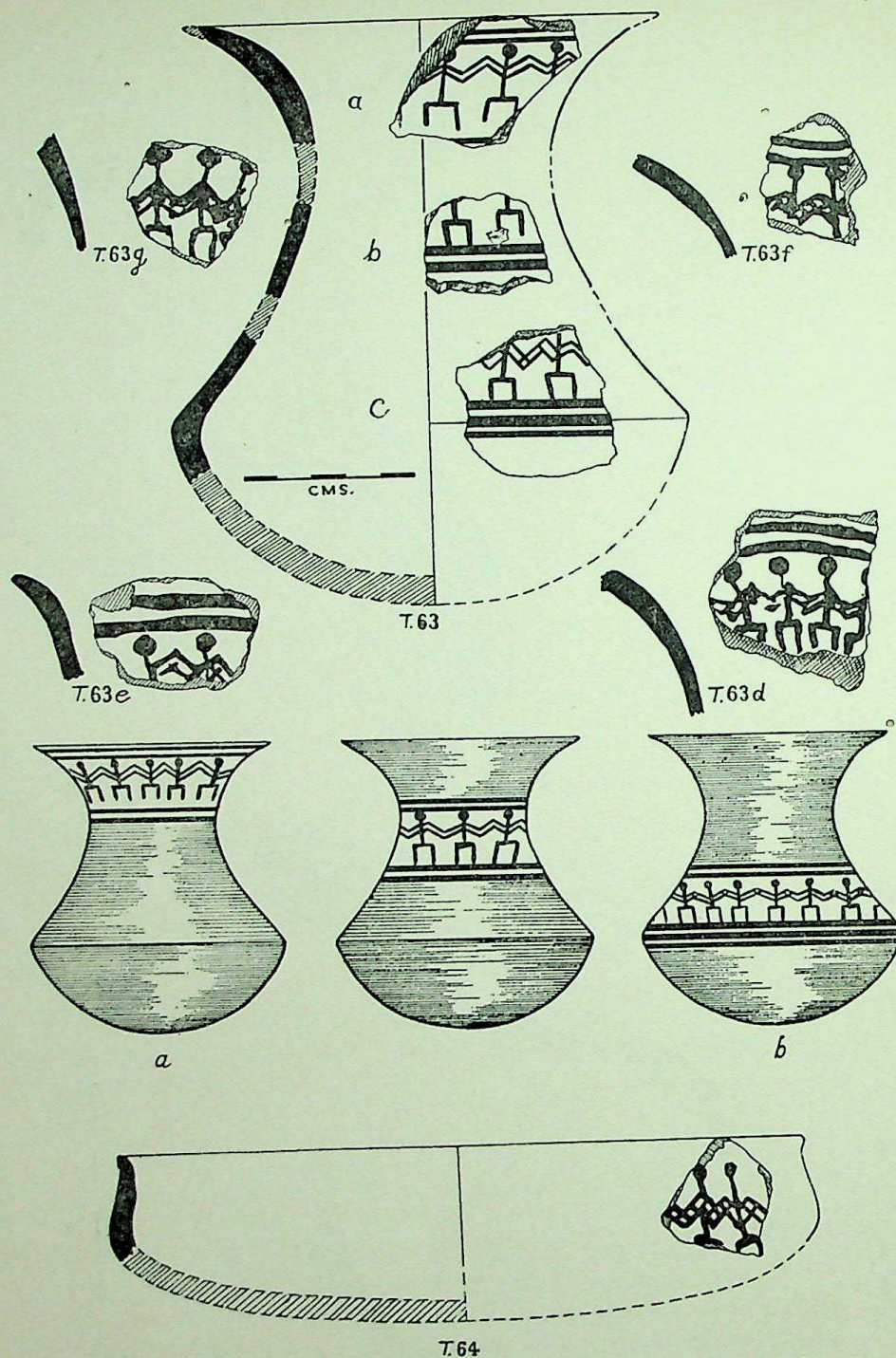


Fig. 42 Types 63-64 [$\frac{1}{4}$] : White-slipped ware with Dancing Human Figures. NVT. Period III. (See p. 113)

POTTERY OF PERIOD III

Fig. 42 (63-64).

Types 63-64 Vessels with Dancing Human Figures

63. *Lotā* or water-vessel, having high, concave shoulder with outgoing rim, low carinated belly. Reconstructed with three sherds (out of 20 sherds found, for details see below).

From a study of these sherds it would appear that the slip, fabric, and the design were not identical, though the vessels were of the same shape. Thus in:

- 63a. Fragment, rim and neck, slip is thin creamy, design around rim and neck. 12362. NVT. I. i. D (5).
 63b. Sherd, middle of long neck, whitish cream slip, slightly worn out on the outside. Design is painted on the middle of the neck with two black bands. 12360. NVT. I. i. D (6).
 63c. Sherd, carinated belly, thick whitish creamy slip on the outside, inside coarse red, and unslipped. Figures along the carination. 12359 and 61. NVT. I. i. D (6). (two sherds).

In the second group of five sherds, the core in one case is black and over-burnt, though it has fine yellowish slip on both surfaces, whereas the the figures are drawn just below the rim.

- 63d. Large rim fragment, yellowish slip. over-burnt core. Figures below the rim, with interlaced arms. 12359A. NVT. Surface.
 63e. Core red and good. 12362. NVT. I. i. D (6).
 63f. Core coarse red with thin slip. 4471a. NVT. III. v. B (5).
 63g. Well burnt dusty core. Short vertical strokes inside the edge of rim. 12362 NVT. I. i. D (6).
 Rest - 11 - sherds are tiny and show either the head or the arm, *not illustrated*.

Type 64 Dish

64. Small fragment, dish. Human figures with interlaced hands, without horizontal bands. 4725. NVT. III. v. (5). This sherd cannot now be traced.

Fig. 43 (65-72).

This figure does not illustrate any new types of vessels. Its aim is to indicate the range of types of vessels which bear animal designs. Unfortunately we have nothing but sherds. However, all of them have a thin white slip over a matt red background. The animal depicted is, most probably, a stylized deer or a goat, with long wavy horns. Their bodies are kept hollow or shown only in outline. These seem to have been arranged in a row.

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Fig. 43 (65, 66, 67, 68-68b, 69, 70, 71).

65. Sherd of a large globular vessel. Thin white slip over a coarse red background inner side black. Hind part of an animal with wavy horn, angular body, short curled tail. 12420. NVT. I. i. G (6).
66. Rim fragment of probably a dish with stand. Thin white slip over a smooth brown surface. Underside red, wheel-made. Hind part of one, and the head of another with long wavy horns. With three vertically arranged circles in between them. 8017. NVT. III. iv. J (3).
67. Small fragment of a dish, with shallow grooves. (Cf. T. 60072. III. v. A (5).)
68. Sherd, bowl. (Cf. T. 60070. NVT. III. iv. A (5).)
- 68a. Sherd, bowl. 23275. NVT. III. v. A (5).
- 68b. Sherd, bowl, thick cream slip on both surfaces. Animal-like design. 12298. NVT. I. i. B(8).
69. Sherd. 11051. NVT. I. i. D (7).
70. Sherd, vessel with highly angular, almost right-angular shoulder. 22792. NVT. III. iv. A (2).
71. Sherd, vessel with broad tapering shoulders, with goat-like animals on thin white slip over a reddish background. 12442. NVT. I. i. F (6).

Unique types Fig. 44 (72-72h, 73-73b)

Types 72-73 Bowls with channel or cut spout

These are two distinctive types of vessels. No complete or even half specimens are available, but we have reconstructed the types from several sherds. The fabric is like other NVT. or Malwa pottery, having a bright red or chocolate slip with matt, smoothed surfaces which are worn out. Painting in black around the rim edge on the outside, and on the underside of the spout, and its tip and around the edges on the inside.

72. Sherd, spout and a part of body, fine thick polished red slip with lattice diamond design below the edge. 4597. NVT. III. v. C.
- 72a. Small sherd, spout and body, smooth chocolate slip. 20935. NVT. III. iv. M (1).
- 72b. Small sherd, worn out red slip and "plant" design. 2321. NVT. III. v. C (4).
- 72c. Small sherd, worn out red slip. 6470. NVT. I. i. D (4).
- 72d. Sherd, spout only. NVT. Surface.
- 72e. Sherd, spout, almost complete. "Leaf" design on either side of the under surface, which is cracked. 12430. NVT. I. i. D (4).
- 72f. Sherd, spout fragment, chocolate slip. 12416. NVT. I. i. A (4).
- 72g. Sherd, spout fragment. 5683. NVT. I. i. B (4).
- 72h. Sherd, spout and bowl end. 6327. NVT. I. i. D (4).
73. Milk jug or cup-like bowl with a 'V' shaped lip, worn out red slip with inverted Σ (sigma) and lattice diamond design. NVT. I. ii. B (1).
- 73a. Sherd, broken just at the lip, plant-like design over a worn out red slip. 23296. NVT. III. v. A (5).
- 73b. Sherd, similar to T 74a, but with lattice-diamond design. 6745. NVT. I. i. E (4).

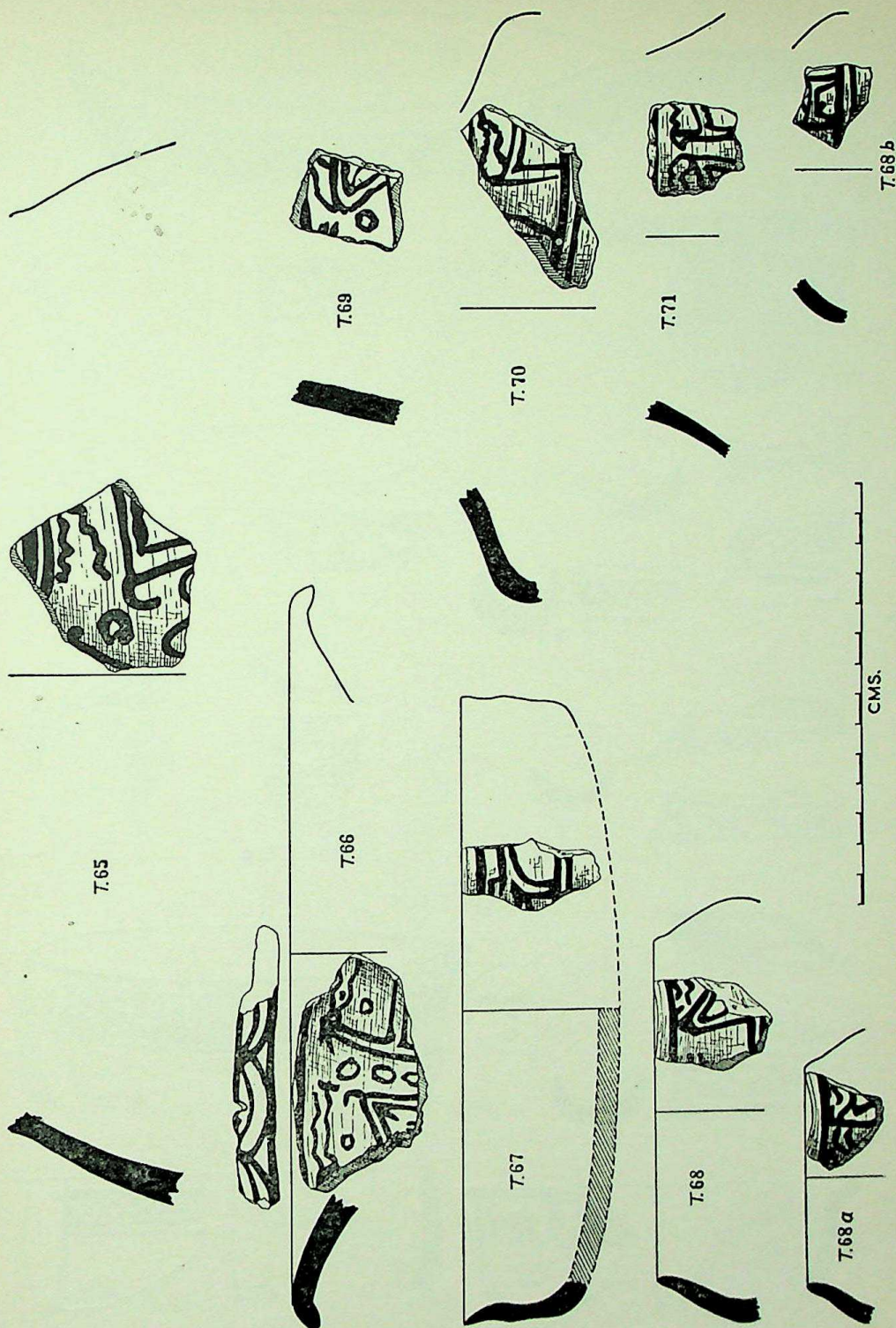


Fig. 43 Types 65-71 [†] : White-slipped ware with animal figures, NVT. Period III. (See p. 113)

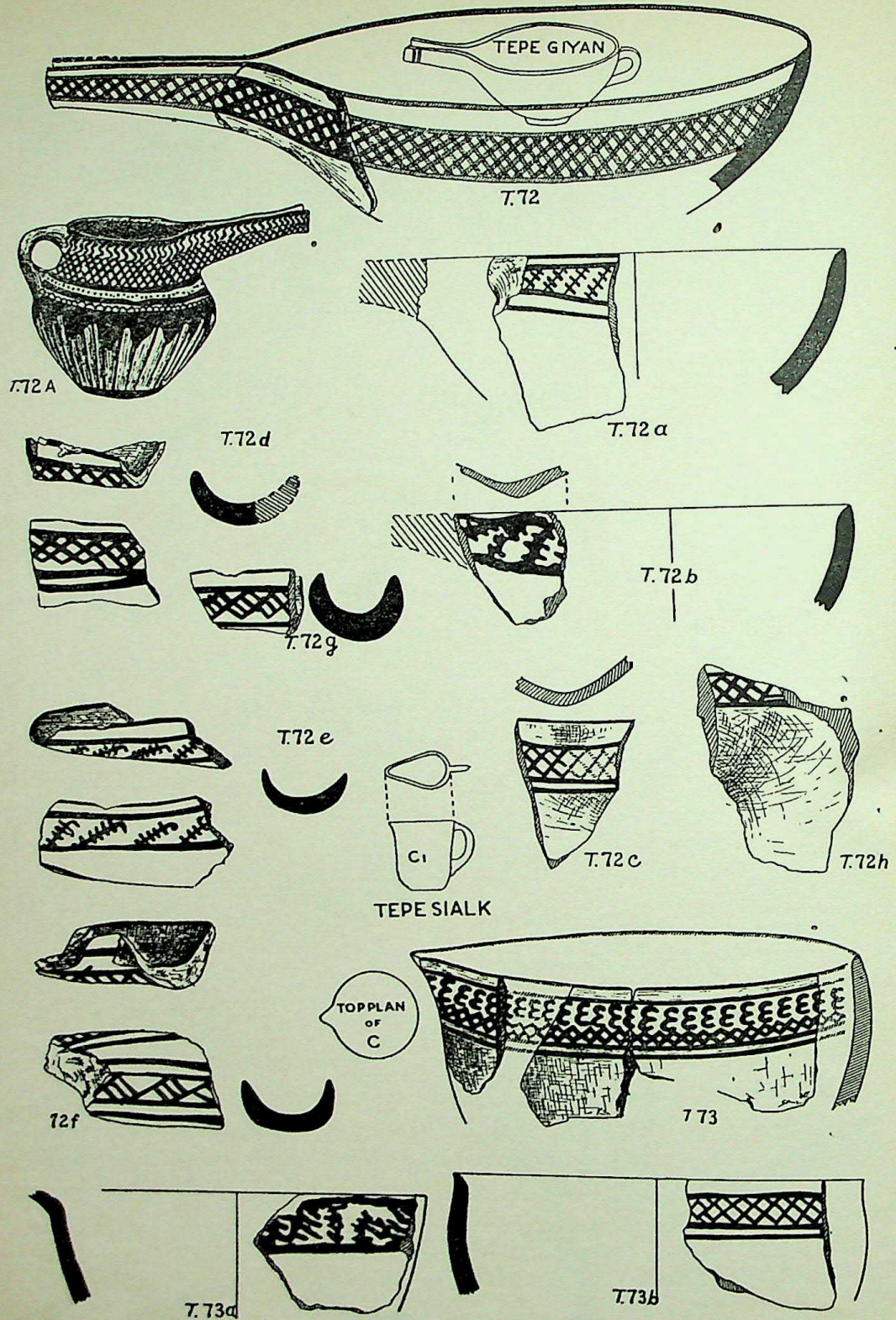


Fig. 44 Types 72-73f [$\frac{1}{2}$] : Channel-spouted and lipped cups. NVT. Period III. (See p. 114)

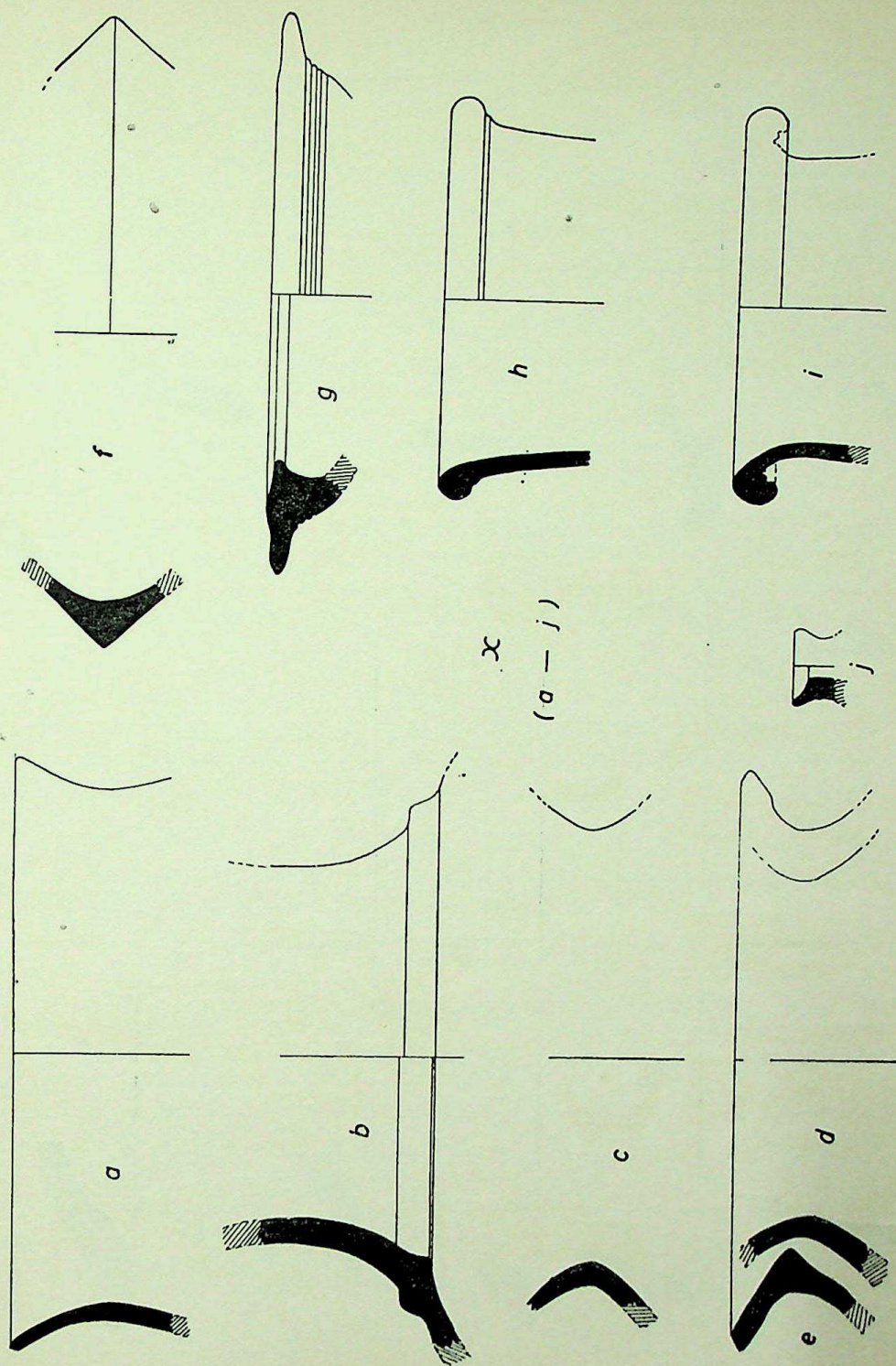


Fig. 45 Types Xa-Xj [14] : Grey ware, NVT. Period III. (See p. 115)

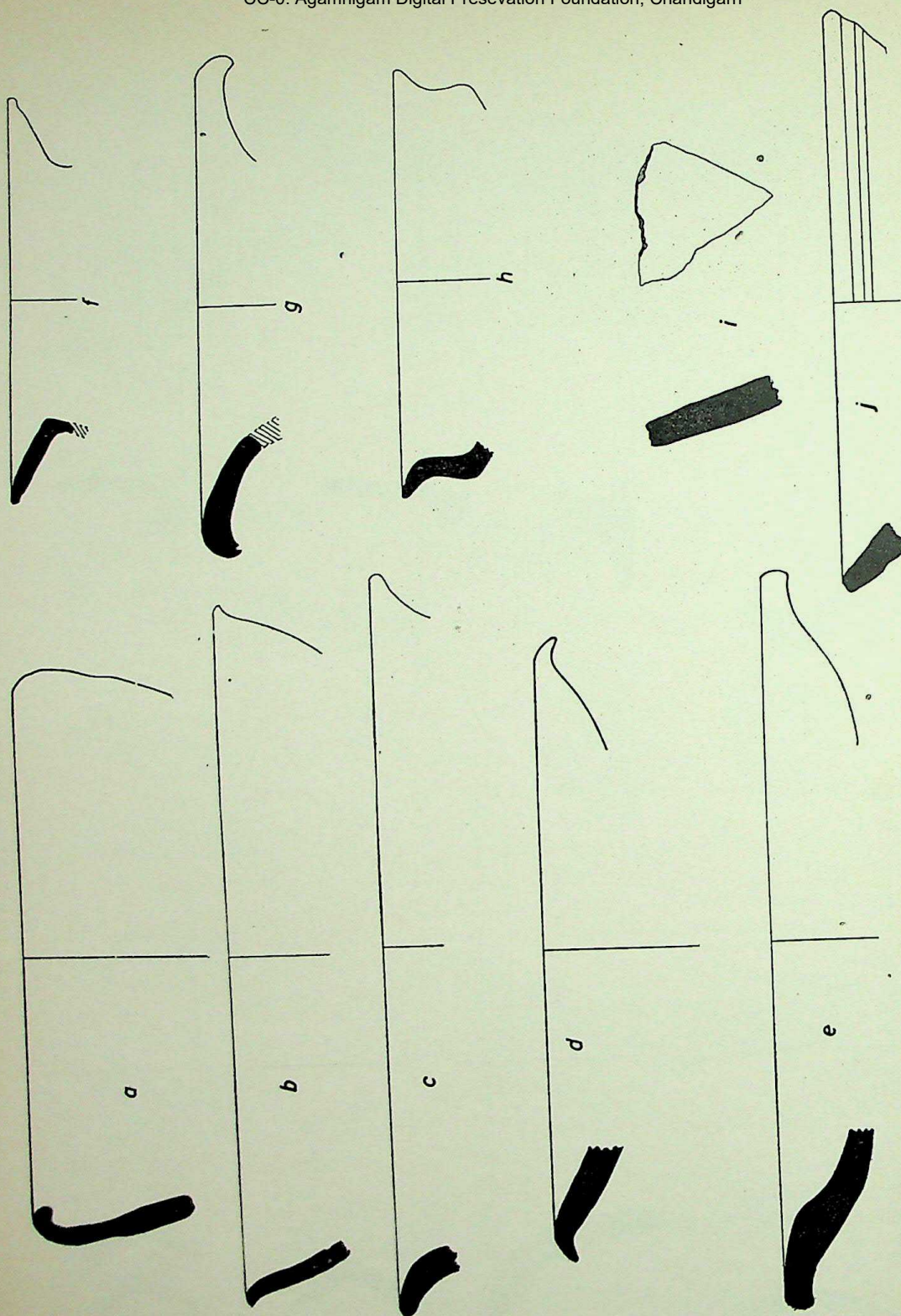


Fig. 45A. Types Ya-Yj [j] : Grey ware. NVT. Period III. (See p. 116)

POTTERY OF PERIOD III

(D) Greyish Black Ware - Fig. 45-45A

Besides the predominantly painted ware—both red, and black-and-red—there is a small percentage of greyish black ware; some 35 sherds, including three from the lowest layers of the Period III at MHSR. Some sherds, a majority greyish, are without any slip, of fine texture and probably made on a fast wheel, as shown by the close (wheel) marks. The other few sherds might belong to this group, but look different, because in addition they have a black slip over the grey surfaces. Some are distinctly different, as shown by their core, which is black. So the entire group from the point of view of fabric is divided into three sub-groups:—

- (A) Uniformly grey (surfaces as well as the core, and fine-grained), about 15 sherds, mostly from the lowest layers.
- (B) Grey (i) with possibly black slip (about 3 sherds), (ii) with traces of red painting (as at Nevasa).
- (C) Black, with porous black core (about 12 sherds) from NVT. I. i. (6 and 7).

Though the material is small, it includes a fairly representative number of types, such as (i) Basins, (ii) Dishes, (iii) Delicately shaped bowls, (iv) Vessels with narrow or broad neck and flaring rim, (possibly burial urns) and (v) Rare types.

If these vessels with broad mouth and flaring rim do indeed represent burial urns, as they seem to do from their fabrics also, then they give additional affinities with those from the Deccan and Mysore.

Fig. 45.

- Xa Fragment, concave rim, fine, thin grey ware made on a fast wheel, with arrow-like graffiti on the outside of the rim. 14811. NVT. II. iii. Pit 10.
- Xb Fragment, neck, very coarse greyish black ware with a groove outside and inside on the neck. 21661. NVT. III. iv. K (5).
- Xc Fragment, neck, smooth ashy grey outside and black inside, with traces of red painting on both sides. 24250. NVT. III. v. B (6).
- Xd Fragment, neck, glossy black outside and coarse and uneven inside. 24285. NVT. III. v. B (6).
- Xe Fragment, neck of an urn, with flaring, broad rim, worn out grey ware. 23404. NVT. III. v. A (6).
- Xf Fragment, carinated belly, smooth greyish outside with a worn out whitish encrustation (paint ?) having a red paint on it. 23673A. NVT. III. v. (7).

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- Xg Fragment, broad flat-rimmed vessel, smooth greyish black surfaces with traces of red paint under the rim on the outside. 23673. NVT. III. v. A (7).
- Xh Fragment, rolled and under cut rim, fine grey ware, core also grey and compact. 24106. NVT. III. v. B (5).
- Xi Fragment, rolled or clubbed rim, with a thin groove, fine grey ware, core also grey and compact. 2689. MHSR. V. i. H (8).
- Xj Fragment, top of very narrow mouthed vessel, smooth greyish surfaces with traces of red paint possibly over a whitish surface. Porous blackish core. 23677. NVT. III. v. P (7).

Fig. 45A.

- Ya Fragment, basin or Kunda-like vessel with inturned edges of the rim. 14361. NVT. II. iii. B (11).
- Yb Fragment, bowl or shallow basin with a slightly everted rim, smooth surfaces 23276. NVT. III. ii. A (5).
- Yc Fragment, dish with everted and pointed rim edge, black outside, blotchy greyish inside. 21245. NVT. III. iv. J (4).
- Yd
- Ye Fragment, dish with a broad flat rim. Blotchy black smooth surfaces, slightly worn out. 20803. NVT. III. iv. H (1).
- Yf Fragment, broad flat rim and neck, perhaps small urn (?). Blotchy black surfaces. 11224. NVT. i. F (7).
- Yg Fragment, rim, narrow mouthed vessel with flaring rim, very coarse, but fully black ware. 21671. NVT. III. iv. K (5).
- Yh Sherd, small bowl with concave sides, carinated belly, and outgoing rim. Fine fabric with smooth surfaces. 2663. MHSR. V. i. H (8).
- Yi Sherd, fine compact, well levigated grey ware having uniformly greyish core plain on the underside but smooth outside and possibly painted.
- Yj Small sherd, rim, fine smooth lightly grooved outer surfaces, light grey outside blackish inside, with faint traces of red paint on the rim. 452. MHSR. V. i. (6).

(E) Tan Ware

Fig. 36 (47c)

This is probably a variety of the Black-and-Tan ware and painted in white. If not, it is a unique fabric. Out of some 17 pieces, almost all tiny, the largest one is described and illustrated.

- 47c. Sherd, very thin, of a vessel with a carinated shoulder or belly, black rimmed portion broken, fine tan surfaces, outside very smooth, perhaps due to polishing. The thin sides with smoky core show that the tan surfaces are possibly due to a non-ferruginous slip, containing mica. 10000. NVT. III. v. A (7).

POTTERY OF PERIOD III

Painted Designs

The designs painted on the red and other pottery of Period III have been briefly mentioned before, while dealing with pottery types. It is here intended to discuss various aspects of the designs themselves,—their main type and technique, and their place on the pottery.

The object of decorating the pottery with painted or incised designs was purely decorative. For, both these appear primarily outside, and that too above the belly, preferably on the shoulder, neck, or round the rim, but never below it. Secondly, the inside decoration is confined only to the inside of the rim of an everted, or flaring rimmed vessel, so that it could be seen. Thus we have :—

- (A) Designs on the outside. (Figs. 46-52).
- (B) Designs on the inside,
- (C) Designs on black-and-red pottery. (Fig. 53).
- (D) Designs on white-slipped pottery. (Fig. 53).

Nature of Designs

All the designs are essentially geometrical, and rarely, barring a few instances (Vn, XIIIg-h and XIII r) natural. Most of the types might be traced to basketry. Human and animal designs are also there, but they are in a stylized or conventional form.¹

(A) Designs on the outside

- The outside designs might be grouped as follows :—

- I Plain horizontal or/and oblique bands.

- II Lattice.

- (a) Simple lattice.

- (b) Diagonal lattice with zigzag lines.

- (c) Diagonal lattice by an angular oblique or a 'tick off' stroke (\surd).

- III (a) Hatched diamonds or parallelograms.

- (b) Latticed diamonds.

- IV Diagonal lattice in vertical bands.

¹By an oversight two designs—the Sigma Σ and a hatched square with the hooks or a hollow circle have been omitted from this list. These appear in Fig. 44 and 36 respectively.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- V Latticed, elongated triangular (diagonal).
- VI Group of interlaced zigzags.
- VII (a) Horizontal wavy.
(b) Vertical wavy.
- VIII (a) Intersecting horizontal arches.
(b) Intersecting vertical arches.
- IX Chevron.
- X Solid Diamonds or "Double-axe." or opposed Triangles or Butterfly.
- XI (a) Concentric circles.
(b) "Sun."
(c) Concentric circles and dots.
- XII Crosses.
- XIII Miscellaneous (Combination of the above).
- XIV Human (See Fig. 42).
- XV Animal (See Fig. 43).

(B). *Designs on the inside*

These are extremely limited in variety, comprising :—

- (a) Semi-circles or arches.
- (b) Intersecting arches.
- (c) Vertical lines.

(C) *Designs on black-and-red Pottery*

(D) *Designs on White-Slipped Pottery*

(A) DESIGNS ON THE OUTSIDE, BLACK-ON-RED WARE

I. *Plain Horizontal or oblique bands*

This is in a sense the most simple design, drawn usually

- (i) round the neck and along the edge of the rim, both inside and outside,
- (ii) round or across the belly or shoulder of a vessel.

The nine specimens here illustrated give an idea not only of the variety but the technique or art of the painter. While in Nos. *c* and *f* the lines seem to be unevenly drawn by an inexperienced or free hand, on others they are very regular and firm, as if drawn with an instrument. While in some cases it appears that the point is thin (No. *d*), in others such an effect seems to have been caused by the nature of the pottery fabric.

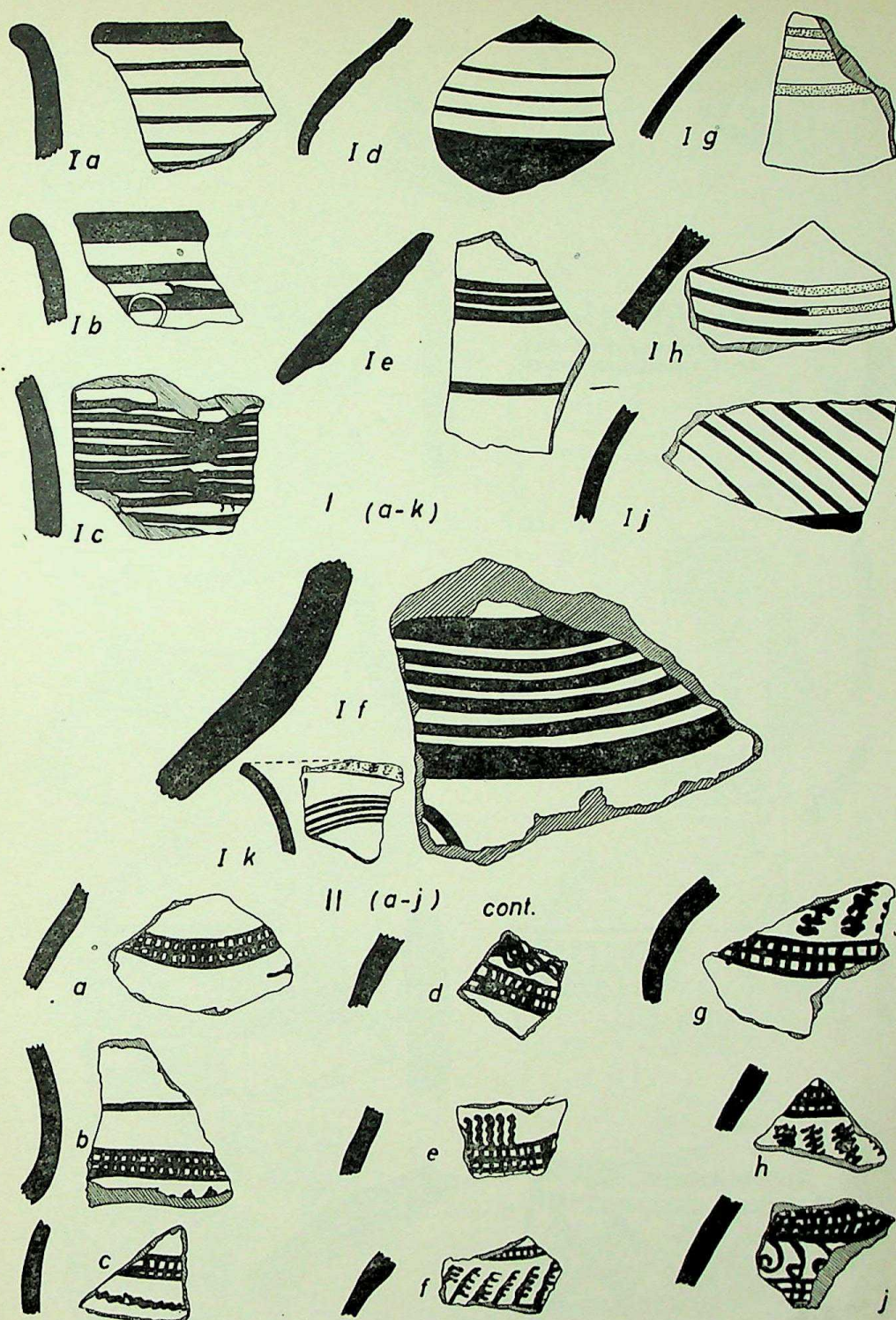


Fig. 46 Designs 1a-1k Horizontal and oblique bands
11a-11j Simple and diagonal lattice. NVT. Period III. (See pp. 118-119)

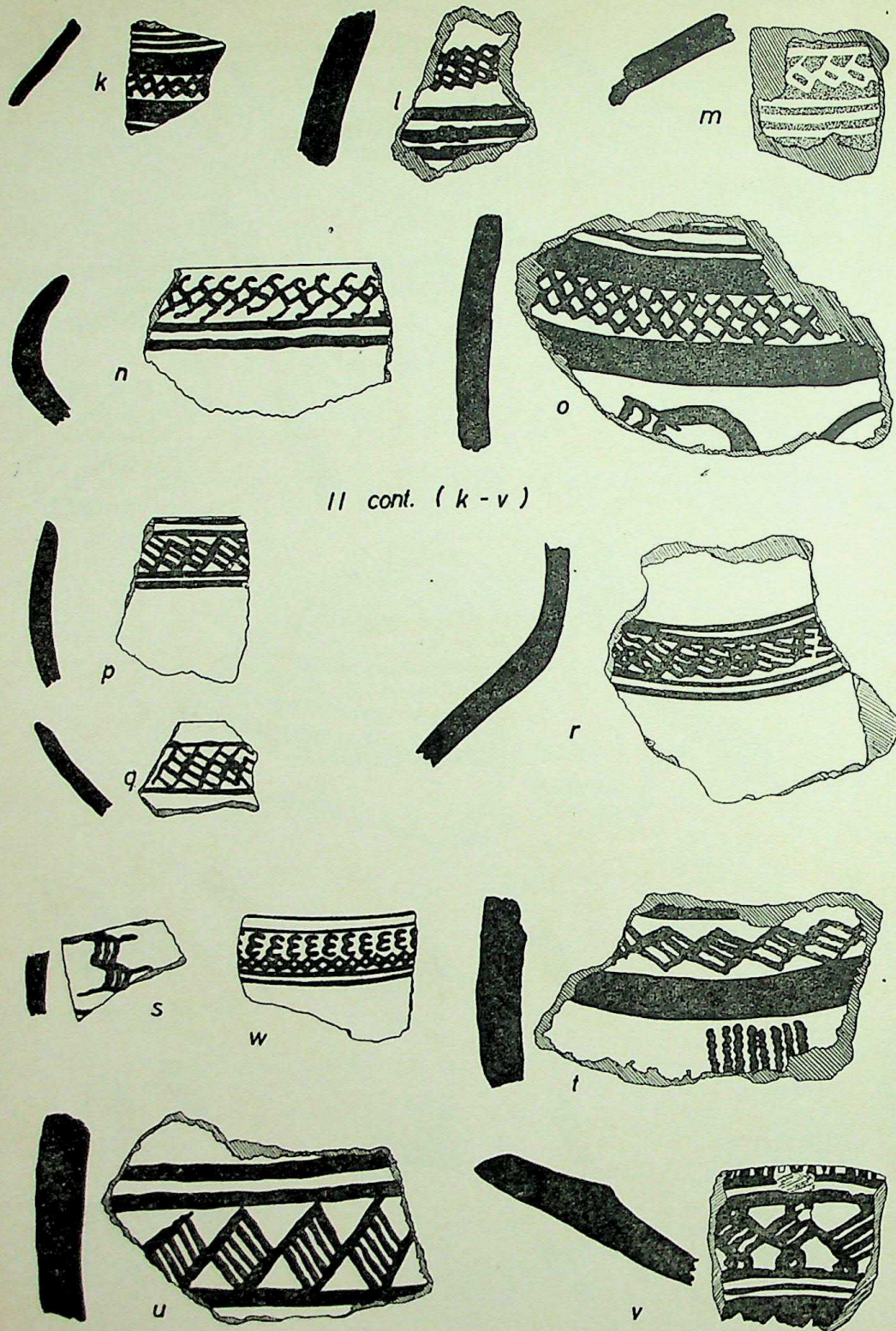


Fig. 47 Designs IIk-IIv : Diagonal lattice and sigma [ε]. NVT. Period III. (See p. 120)

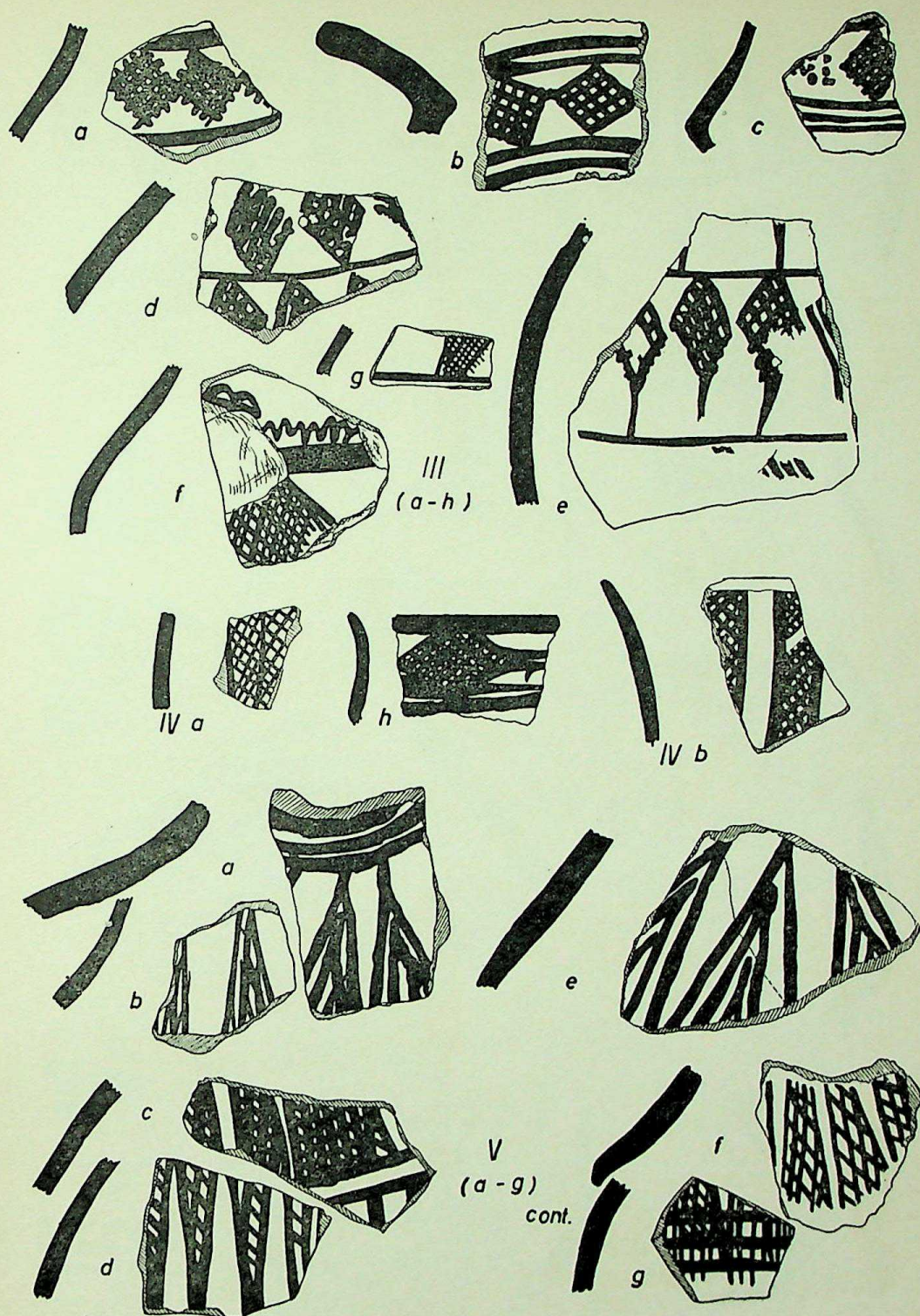


Fig. 43 Designs IIIa-IIIh Latticed diamonds
IVa-IVb Hatched and diagonal lattice
Va-Vg "Stylized leaf" NVT. Period III. (See p. 121)

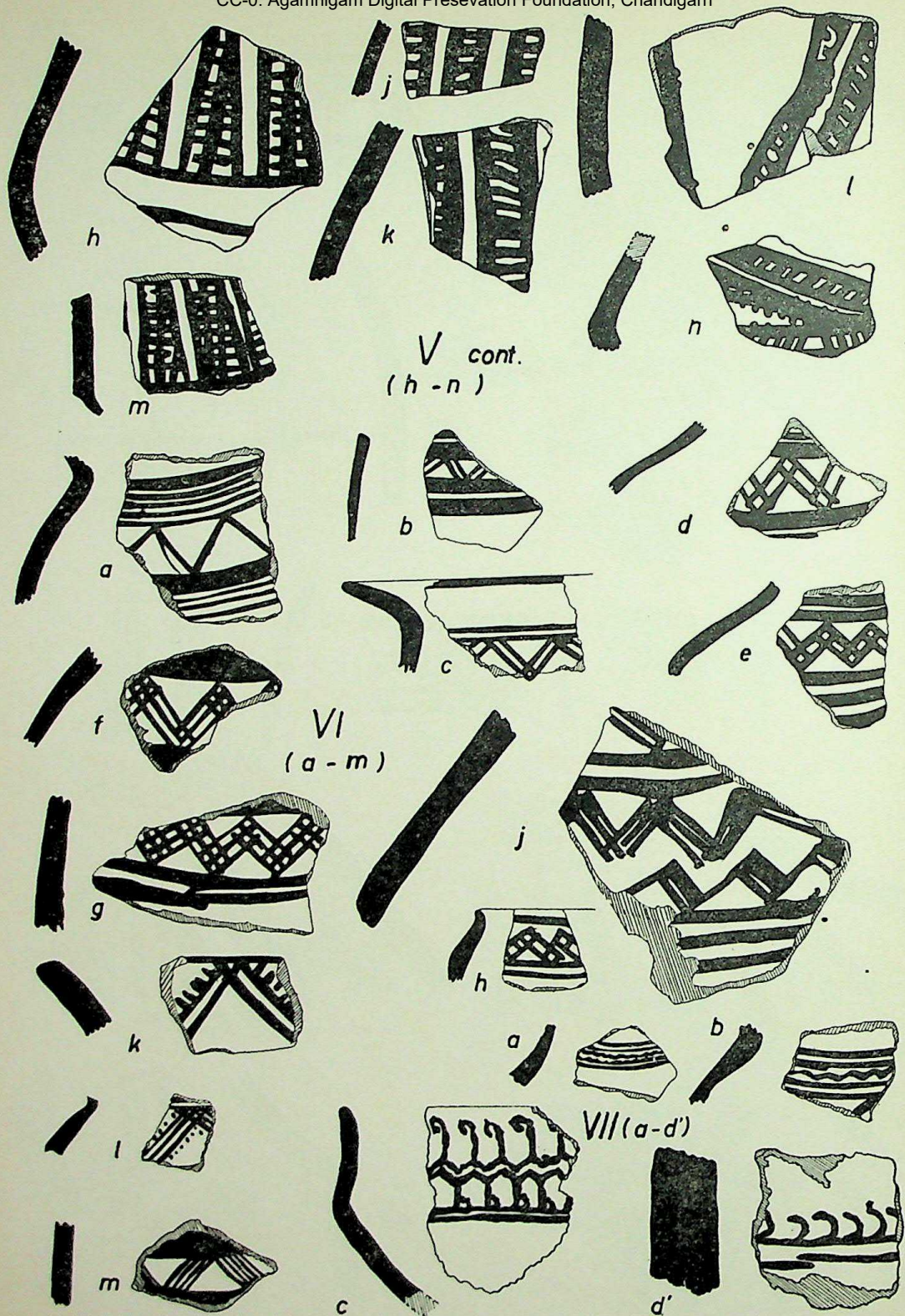


Fig. 49 Designs. Vh-Vn Horizontally hatched triangles
Vla-Vlm Zigzags Vlla-Vlld' wavy lines. NVT. Period III. (See p. 122)

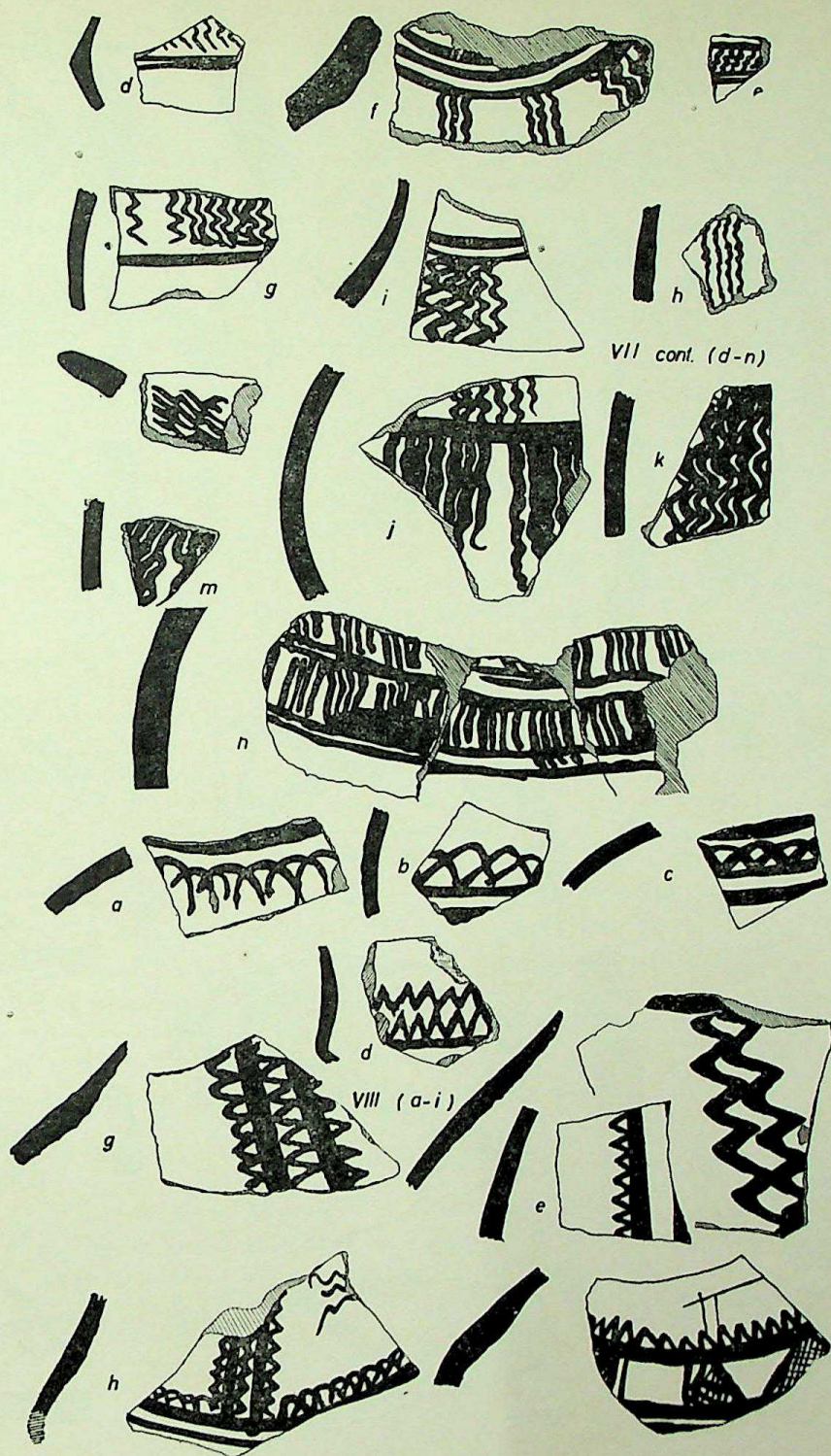


Fig. 50 Designs VII d-VII n Vertical wavy lines
VIII a-VIII i Intersecting semicircles and arches. NVT. Period III. (See pp. 123-24)

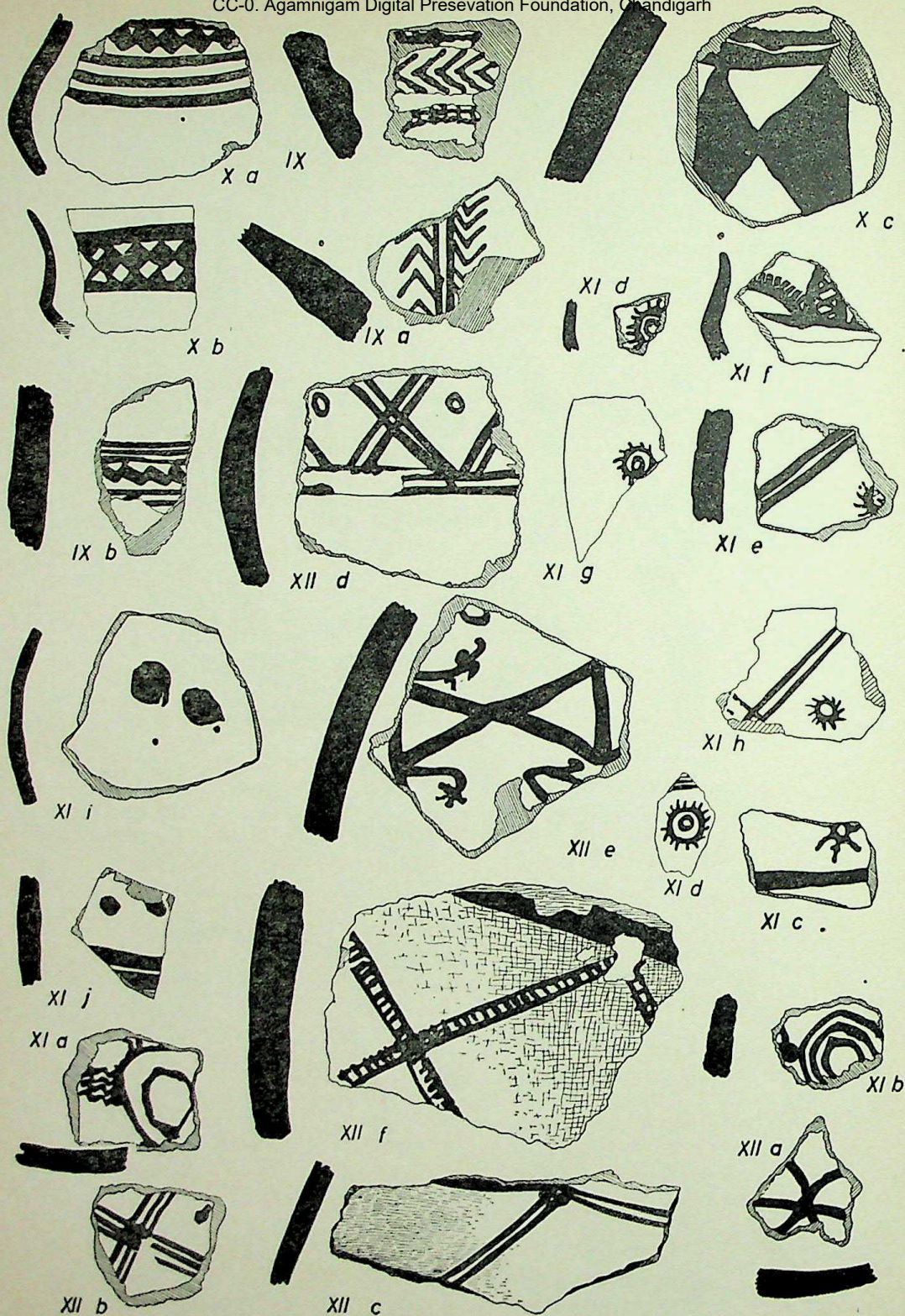


Fig. 51 Designs. IXa-IXb Chevrons etc.
 Xa-Xc Solid diamonds and opposed triangles
 XIa-XIj Circles XIIa-XII f Crosses
 NVT. Period III. (See pp. 124-25)

POTTERY OF PERIOD III

Fig. 46. (I, IIa-IIf).

- Ia Sherd, rim, high-necked vessel, reddish slip with faint black horizontal bands on the outside, inner worn out. 84571. NVT. III. v. B (7).
- Ib Sherd, rim, high-necked vessel, unslipped, very coarse, brownish surfaces with faint black bands, and an incised circle, inner worn out. 23670. NVT. III. v. A (7).
- Ic Sherd, fragment with neck, smooth dark red surface, inner unslipped, with deep black, irregular black bands. Either owing to careless way or what, three large dots seem to have fallen because of extra or thin paint. 5364. NVT. I. i. B (6).
- Id Sherd, shoulders, very fine fabric, smooth dull brown outside, inside coarse but grooved. Thin and broad black bands which are well spaced, but seem to have been made with a thin paint. 8190. NVT. I. i. C (5).
- Ie Sherd, shoulder, fabric similar to Id, but has faint reddish bands. 6355. NVT. I. i. D (4).
- If Thick, large sherd, shoulder, very coarse fabric, probably hand-made, dull whitish or creamish slip with faint black bands. 21582. NVT. III. iv. K (4).
- Ig Sherd, shoulder, fine fabric, polished red slip outside with three red bands. Inside dull grey. *One of the few sherds with paintings in red.* 6051. NVT. I. i. C (4).
- Ih Thick sherd, fabric as in Ig, with paintings in black and red. 4319. NVT. I. i. C (7).
- Ij Sherd, fine fabric, matt red slip with oblique bands in black. 2877. NVT. I. i. B (3).
- Ik Thin sherd, shoulder, narrow bands round the neck on smooth brown surface. 6324. NVT. I. i. D (4).

II. Lattice

The design made by simple horizontal and vertical cross lines and their combinations may be said to be the most common painted decoration on the proto-historic pottery of Navdatoli. It has its roots in weaving with any kind of material. These are here arranged in two or three plates showing their range and position on various types of vessels. The simplest and the neatest is the first with horizontal and vertical bars. This "simple lattice" occurs singly or in combination with other designs.

II A. SIMPLE LATTICE

- IIa Sherd, shoulder, matt brown slip with lattice design. 4275. NVT. I. i. G (3).
- IIb Sherd, neck and shoulder, red slip with black band and lattice. 1618. I. i. D (2).
- IIc Sherd, fabric as in IIa. Lattice with a wavy band. 7924. I. i. A (5).
- IId Sherd, thick, black core. Worn out lattice with clumsily drawn hatched parallelograms. 1642. NVT. I. ii. D (2).
- IIe Sherd, matt brown slip, black core, group of wavy lines with irregularly drawn lattice. The paint is not uniformly thick. 22920. NVT. III. iv. B (5).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- II_f Sherd, fabric as in II_g, with lattice and "plant" like design. 3882. NVT. I. i. F (1).
 II_g Thick sherd, fabric as in II_g. Lattice with irregular brush strokes and ill-drawn crossed vertical lines. 3706. NVT. I. i. F (3).
 II_h Thick sherd, dark red slip, neatly drawn lattice and obliquely crossed vertical lines. 4514. NVT. I. 9 (3).
 II_i
 II_j Sherd, red slip which is flaking off, with a double band of lattice—ill-drawn—and a row of curved strokes with the lower forming a circle. 23881. NVT. III. v. (2).

Fig. 47 (II_k-II_w).

II B. DIAGONAL LATTICE WITH ZIGZAG LINES

In this sub-type the lattice design is formed by diagonal lines.

- II_k Sherd, shoulder, a row of diagonals between horizontal lines. 1205. MHSR. III. i. H (7).
 III Thick sherd, group of diagonal lattice, not connected with bands. *Very rare*. 6844. NVT. I. i. E (4).
 II_m Thick sherd, diagonal lattice in white, over a polished red slip. *Extremely rare*. 23351. NVT. III. v. A (5).
 II_n Sherd, dish or bowl with incurved rim. A single row of diagonal lattice, with their vertical axes lengthened with curved strokes to the right and left respectively. 9183. NVT. I. i. C (4).
 II_o Very thick and large sherd, brown slip over a coarse body, hand-made. Double row of diagonal lattice between thick crimson black bands and some other design below. 2357. MHSR. III. i. H (7).
 II_p Sherd, bowl, matt, brown slip on both surfaces with the diagonal lattice formed probably by (i) a tick off (✓) stroke which have been later obliquely crossed each separately, so that in the resultant row of parallelogram the cross strokes of each succeeding do not meet. 23289. NVT. III. v. A (5).
 II_q Sherd, fabric and design as in II_p. 2663. NVT. I. i. A (3).
 II_r Sherd, neck and shoulder, smooth red slip surface, under coarse. Design as in II_p and II_q, but the strokes are not firm and give a wavy effect. 5233. NVT. I. i. A (4).
 II_s Small sherd, with "flags", upper and lower extremities extended horizontally. 20241. NVT. III. iv. F (2).
 II_t Thick sherd, coarse black inside, cream or light brown, slipped outside, with designs in crimson black, and wavy vertical lines in addition. Hand-made. 24437. NVT. III. B (7).
 II_u Thick sherd, red slip outside, coarse inside, fine "flag" design. 24531. NVT. III. iv. B (7).
 II_v Thick sherd, dish, "flag" design with a circle on the vertical ends.
 II_w Sherd, of a bowl with cut or lipped spoutlight red slip with sigma (ε) and diamond design. Both are red. (See Fig. 44),

POTTERY OF PERIOD III

Fig. 48. (IIIa-h ; IVa-b ; Va-g).

III HATCHED OR LATTICED DIAMONDS OR PARALLELOGRAMS

Slight distinction may be made between latticed and hatched decorations. The former is neat and regular, the latter irregular, as if done carelessly, so that lines or brush strokes not only overlap, but go outside the boundaries.

- IIIa Sherd, shoulder, polished red slip outside having a row of hatched diamonds or parallelograms with loose ends. 24520. NVT. III. v. B (7).
- IIIb Thick rim fragment, having a dull, worn out brownish slip, with neatly drawn parallelograms. 1780. NVT. I. i. L (2).
- IIIc Sherd, carinated shoulder, slip etc. as in IIIa. Latticed parallelograms and a group of dots. 10909. NVT. I. i. C (7).
- IIId Sherd, fine fabric, smooth light brown slip with rows of latticed parallelograms. 10517. NVT. I. i. H (6).
- IIIe Large sherd, fine fabric globular vessel, worn out red slip, inside plain. Elongated parallelograms. 2734. MHSR. I. i. (8).
- IIIf Sherd, shoulder, fine fabric, coarse brownish slip, inside plain, several designs including some hatched object, and wavy lines. 1140. NVT. I. i. B (2).
- IIIg Small sherd, fine fabric, red, matt surfaces, thinly hatched object. 9086. NVT. I. i. H (5).
- IIIh Rim, bowl or dish with elongated, hatched parallelogram.

IV. DIAGONAL LATTICE IN VERTICAL BANDS

- IVa Small sherd, reddish matt surface, diagonal lattice in vertical bands. 2067. NVT. I. i. F (2).
- IVb Sherd, broad, high necked vessel, fine fabric, reddish matt surface decorated with diagonal lattice in vertical bands. 6754. NVT. I. i. D (4).

V. STYLIZED "LEAF"

This group represents designs which it has been difficult to understand, for no complete specimen is found. Two or three sub-groups may be recognised.

- (a) Elongated triangles within triangles, partly hatched or connected with each other.
- (b) Diagonally latticed elongated triangles.
- (c) Horizontally hatched elongated triangles.

It is not improbable that all the three sub-groups are stylized representation of leaves. If so, this group would represent a "leaf" design.

A. Triangles within triangles

- Va-Vb Thick sherds, shoulder, hand-made, light cream or buff slip, coarse surface, inside very uneven and black or greyish—*very rare fabric*. Elongated triangles within triangles in thin purplish black suspended from the neck. 8005. NVT. III. iv. K (4). 21655. NVT. III. iv. K (4).
- Vc Sherd, shoulder, fine polished chocolate slip, inside plain. Design as in Va-Vb. 21718. NVT. III. iv. K (5).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

B. *Latticed Triangles*

- Vd Sherd, light brown slip, latticed triangles. 21206. NVT. II. iv. J (3).
 Ve Sherd, belly, light red slip, diagonally latticed triangles. 1199. MHSR. V. i. H (7).
 Vf Sherd, shoulder, extremely worn out surfaces with neatly drawn, diagonal lattice. 23423. NVT. III. v. A (6).
 Vg Sherd, belly, light brown slip, black inside, hatched triangles (?). 10308. NVT. v. B (6).

Fig. 49 (Vh-Vn, VI-VIm, VIIa-d)

C. *Horizontally hatched triangles*

- Vh Sherd, shoulder and belly, very thin slip on a coarse slip, inside plain. Horizontally hatched triangles. 24220. NVT. III. v. B (5).
 Vj Small sherd, light brown surface, remains of horizontally hatched triangles. The vertical lines are very faint. 11311. NVT. I. i. G (7).
 Vk Thick sherd, light red slip, inside black and grooved, fine fabric, design as in Vj, but looks like a "ladder". 9991. NVT. I. i. F (6).
 Vl Thick sherd, light brown slip parallel bands of horizontally hatched bands. 9999. NVT. I. i. E (6).
 Vm Sherd, carinated belly, light brown slip, vertically and horizontally hatched triangles. 24317. NVT. III. v. B (6).
 Vn Thick sherd, light brown slip, inside plain. Here there are oblique bands and triangle obliquely hatched. Of all the designs this looks like a 'leaf'. 24504. NVT. III. v. B (7).

VI. ZIGZAGS

This is another favourite design, occurring both on the red as well as the white and cream-slipped ware. The plate illustrates the different combinations beginning with the simplest, and also the variety of shapes of vessels on which it occurs.

- VIa Sherd, shoulder, smooth brown slip, inside plain, simple zigzag lines between horizontal bands. 14881. NVT. II. iii. Pit 4.
 VIb Very thin sherd, fine fabric, smooth brown surface, inside plain but having fine grooves. 12424. NVT. I. i. H (6).
 VIc Sherd, flaring rim, brown slipped, surfaces a row of double zigzag lines on the neck, and double overlapping arches on the inside rim. 4326. NVT. I. i. G (7).
 Vid Thin sherd, chocolate slip, inside plain, double row of zigzags cross each other at either end. In exactly identical way the arms are shown of Dancing Human Figure (above Fig. 42, T.63f.). So this and similar designs might be conventionalized "human arms". 11247. NVT. I. i. F (7).
 VIe Thin sherd, shoulder, polished red slip outside, inside slip has worn out. Whether the black paint has completely gone off, leaving the white impressions, or whether the original paint is white, cannot be definitely said. 23968. NVT. III. v. A (6).

POTTERY OF PERIOD III

- VIf Sherd, light chocolate slip, black inside. Treble row of zigzags forming interlaced parallelograms at either end. 10268. NVT. I. i. F (6).
- VIg Thick sherd, as above, fine grooves inside. Design as in VIg. 21984. NVT. III, iv. L (4).
- VIIh Small sherd, bowl, red slipped surfaces. Double line of zigzags. 2956. NVT. I. i. E (6).
- VIj Thick sherd, light brown slip, inner plain. Treble row of zigzags, but *ends not interlaced*, and below zigzags forming a "flag" by oblique strokes. 23721. NVT. III. v. A (7).
- VIIk Rim fragment, fine red slip, double row of zigzags forming an acute angle or angular arch with oblique lines shooting off from the upper lines. 2609. NVT. I. i. A (3).
- VII Small sherd, polished red slip, design as above, but dots instead of oblique strokes. 10289. NVT. I. i. F (6).
- VIm Small sherd, red slip, (a row of) four zigzags. 8940. NVT. I. i. G (5).

VII. WAVY LINES

A. Horizontal

- VIIa Thin, small sherd, red slip, horizontal wavy lines between thin bands round the neck. 6926. NVT. I. i. G (7).
- VIIb Sherd, neck and shoulder, polished chocolate slip, inside plain. A single wavy line between bands. 9774. NVT. I. i. D (6).
- VIIc Sherd, bowl, row of double horizontal wavy lines with vertical "incipient spirals". 12423. NVT. I. i. F (4).
- VIIId Very thick sherd, fragment, stem of a dish with stand, coarse red slipped surface having curved strokes arranged horizontally.

Fig. 50. (VIIId-n; VIII A-i.)

B. Vertical

- VIIId Sherd, bowl, red slip, vertical wavy like broad Brahmi letter *ja*, or English letter E. 4313. NVT. I. i. G (3).
- VIIe Sherd, bowl with a lip or channel spout, red slip, vertical wavy step-like design. 3853. NVT. I. i. F (3).
- VIIIf Thick sherd, neck, red slip, under side coarse and blotchy. Group of parallel step-like verticals suspended from concentric lines round the neck. 14601. NVT. II. iii. C (3).
- VIIg Sherd, weathered surface, pale brown slip, group of vertical wavy lines. 245351. NVT. III. v. B (6).
- VIIh Sherd, cream slip, possibly hand-made. Group of vertical wavy lines in reddish black. 1564. MHSR. III. i. H (7).
- VIIi Sherd, neck, possibly unslipped. Wheelmade, fine fabric, chocolate surfaces. Group of joined suspended verticals. 24521. NVT. III. v. B (7).
- VIIj Sherd, probably unslipped, but burnished pale brown surfaces, with a group of crimson red verticals. 2685. MHSR. I. i. H (6).
- VIIk Sherd, belly, thin slip or wash, group of thinner and thicker vertical wavy lines. 2268. NVT. III. iv. (2).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- VIII Sherd, rim, dish, worn out red slip with a group of oblique wavy lines. 5623. NVT. I. i. B (4).
- VIII_m Sherd, slip and fabric as in VIII_j. Stemmed wavy lines. 8910. NVT. I. i. G (5).
- VIII_n Thick sherd, storage jar, belly, red slip, with irregular or unevenly drawn thick vertical lines in two horizontal registers. 21919. NVT. VII. iv. L and M (4).

VIII REGULAR WAVY LINES FORMING ARCHES

This design is not fundamentally different from the one preceding. Only it is more regular, so that the lines form horizontal or vertical arches. These designs seem to occur invariably on fine, wheelmade Jorwe-Nevasa fabric.

- VIII_a Sherd, unslipped but probably burnished, greyish surfaces. Horizontal intersecting semi-circles. 1924. I. i. E (2).
- VIII_b Sherd, pale red slip, horizontal intersecting pointed arches. 3539. NVT. I. i. E (3).
- VIII_c Sherd, similar to above, but with thicker and more regular lines. 2658, NVT. I. i. A (3).
- VIII_d Sherd, carinated bowl, pale brown slip, double row of horizontal symmetrical pointed arches. 83696. NVT. I. i. H (4).
- VIII_e Sherd, belly, single row of vertical arches along thick black band. 2276. NVT. i. G (2).
- VIII_f Large sherd, shoulder, symmetrical vertical arches. 8657. NVT. I. F (5).
- VIII_g Sherd, shoulder, group of vertical arches along thick black bands. 8658. NVT. I. i. F (5).
- VIII_h Sherd, shoulder, probably unslipped but burnished chocolate coloured surface, inside plain. Intersecting horizontal arches, and pointed vertical arches along thick black bands. 3283. NVT. I. i. D (3).
- VIII_i Sherd, shoulder, red slip. Horizontal pointed arches and hatched triangles on thinly painted broad black bands. 2276a. NVT. I. i. F (2).

Fig. 51 (IX-IXa, Xa-Xb, XIa-XIh, XIIa-XII_f)

IX CHEVRONS

Though the chevron and its combinations are frequent in Incised Ware, in the painted it is very rare. Probably this is the only sherd.

- IX Very thick sherd, probably of a dish, thick crimson slip, now wearing off, on both surfaces. Chevron, pointed end to the left, open arms to the right. 2829. NVT. I. i. B (3).
- IX_a Thick sherd, dish, with chevrons in either direction.
- IX_b Very thick sherd, light brown slip, a wavy-like or solid oblique rectangle design. 7278. NVT. I. i. H (4).

POTTERY OF PERIOD III

X SOLID DIAMONDS AND "DOUBLE AXE" OR OPPOSED TRIANGLE

Both are very rare, the "double axe" particularly so.

- Xa Sherd, bowl, fine red slip, inside coarse and plain, solid diamond arranged horizontally. 2360. MHSR. III. i. H (7).
- Xb Sherd, bowl, solid diamonds between triangles and horizontal band. Fine fabric, but surface and paint much worn off. 1812. NVT. I. i. E (2).
- Xc Very thick sherd, intentionally cut into a round shape, worn out red slip underside very coarse. "Double-axe" or opposed triangle 21524. NVT. III. iv. K (4).

XI CIRCLES

- XIa Sherd, inside of a dish, reddish slip, underside blackish and very much worn out. Circle within circle or concentric circles. 21287. NVT. III. i. L (4).
- XIb Small sherd, thin reddish slip, concentric circles. 23804. NVT. III. v. H (7).
- XIc Sherd, carinated belly, red slip worn out at carination. "Sun" with a few rays 6093. NVT. I. i. C (4).
- XId Tiny sherd, red slip. "Sun" with two circles and many rays, but incomplete. 8492. NVT. I. i. (3).
- XId₁ Tiny sherd, red slip, "Sun" with two circles. Both complete. 14324. NVT. II. A (11).
- XIe Thick sherd, red slip on both the surfaces with a dot and circle with "rays" and two oblique bands. 7905. I. i. A (5).
- XIf Sherd, bowl, red, with a semi-circle and "rays" and a broad band with a lattice design. Much worn-out. 6426. NVT. I. i. D (4).
- XIg Sherd, "Sun", circle within circle having anti-clockwise rays.
- XIh Sherd, "Sun" or circle with anti-clockwise rays, and two thick parallel oblique bands.
- XIi Sherd, fine fabric, red slip, two solid dots. Cf. Jorwe-Nevasa, fabric and "Potters' Marks" 3327. NVT. I. i. D (3).
- XIj Large sherd, fine fabric, unslipped, two faint solid dots inside of a bowl or dish. Cf. Jorwe-Nevasa fabric and "Potter's Marks." 3311. NVT. I. i. D (3).

XII CROSSES

This represents a group, in which almost every design is unique or different from another. Only very broadly they can be brought under the term "cross".

- XIIa Small sherd, inside of a dish or bowl, with glossy red, weathered red slip having a design of two circles (or semi-circles) touching each other and cut vertically by straight faint lines. The underside is very much weathered. 9778. NVT. I. i. D (6).
- XIIb Sherd, inside of a dish or bowl, weathered red slip with a cross made by three parallel bands having a solid black centre. NVT. I. i. H (4).

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- XIIc Sherd, belly, fine, brownish cracked slip outside, inside coarse black, with a large cross made by double lines and a solid black centre. Two of the bands have been drawn from above the circle. 6428. NVT. I. E (4).
- XIIId Large thick sherd, belly, worn out red slip on both surfaces, blackish core, with large crosses and hollow circles in empty parallelograms. 7871. NVT. I. H (5).
- XIIe Large thick sherd, shoulder, thin dark brown slip with hollow "double axe" or opposed triangles, having festoons or a flower suspended from either corner of its base. This might be a stylized human figure. 24008. NVT. III. v. B (3).
- XIIIf Thick sherd, storage jar, weathered red slip outside, inside coarse red and unslipped. Squares and triangles formed by stepped or ladder-like intersecting double black lines. 14369. NVT. II. iii. B (11).

Fig. 52 (a-s)

XIII MISCELLANEOUS (COMBINATION OF THE DESIGN TYPES I-XII)

This is again a group containing rare or unique designs, but essentially combinations of the types discussed previously. Hence they are not expressly called here "unique".

- XIIIa Sherd, neck and shoulder, fine fabric, neck hand-made, red slip above, under plain. Two thin black horizontal bands with a peculiar design, like a conjunct *Brāhmī* letter. 38538. NVT. I. i. E (3).
- XIIIb Small sherd, red slipped surfaces with a "vertebra and ribs" design. 8076. NVT. I. i. B (5).
- XIIIc Tiny sherd, slip and designs similar to above. 8702. NVT. I. i. F (5).
- XIIId Small sherd, cracked dark brown slipped surface, under very coarse and blackish with a four "*Triśūla*" design in vermilion. 1955. NVT. I. i. E (6).
- XIIIe Small sherd, fine red slip having two thick volutes with vertical strokes. These look like stylized animals. 8663. NVT. I. i. F (5).
- XIIIIf Thick rim fragment, red slip on the inside with a "plant like" design, an oblique line cut by a series of small lines at right angle—in two rows. 1794. NVT. I. i. E (2).
- XIIIg Thick everted or outgoing rim fragments having a single row of "plant design" with horizontal bands. 4279. NVT. I. i. G (3).
- XIIIh Fragment, carinated belly, worn out red slip with simple "plant" design or oblique line cut at right angles on one side only. 8220. NVT. I. i. C (5).
- XIIIi Sherd, thin worn out red slip, under coarse and plain, with "tooth brush" design. 22312. NVT. III. iv. M (4).
- XIIIj Sherd, burnished unslipped surface with a design perhaps similar to the "tooth brush" design. 23292. NVT. III. v. A (5).
- XIIIk Very thick sherd, worn out dark red slip, under plain and very coarse, thick radial lines and empty circles at end. 4177. NVT. III. v. B (3).
- XIIIl Thick sherd, bright red slip and brick red core, with a design similar to in XIIIk.
- XIIIIm Sherd, bowl, red slip, incipient spirals or simple volutes between horizontal bands.

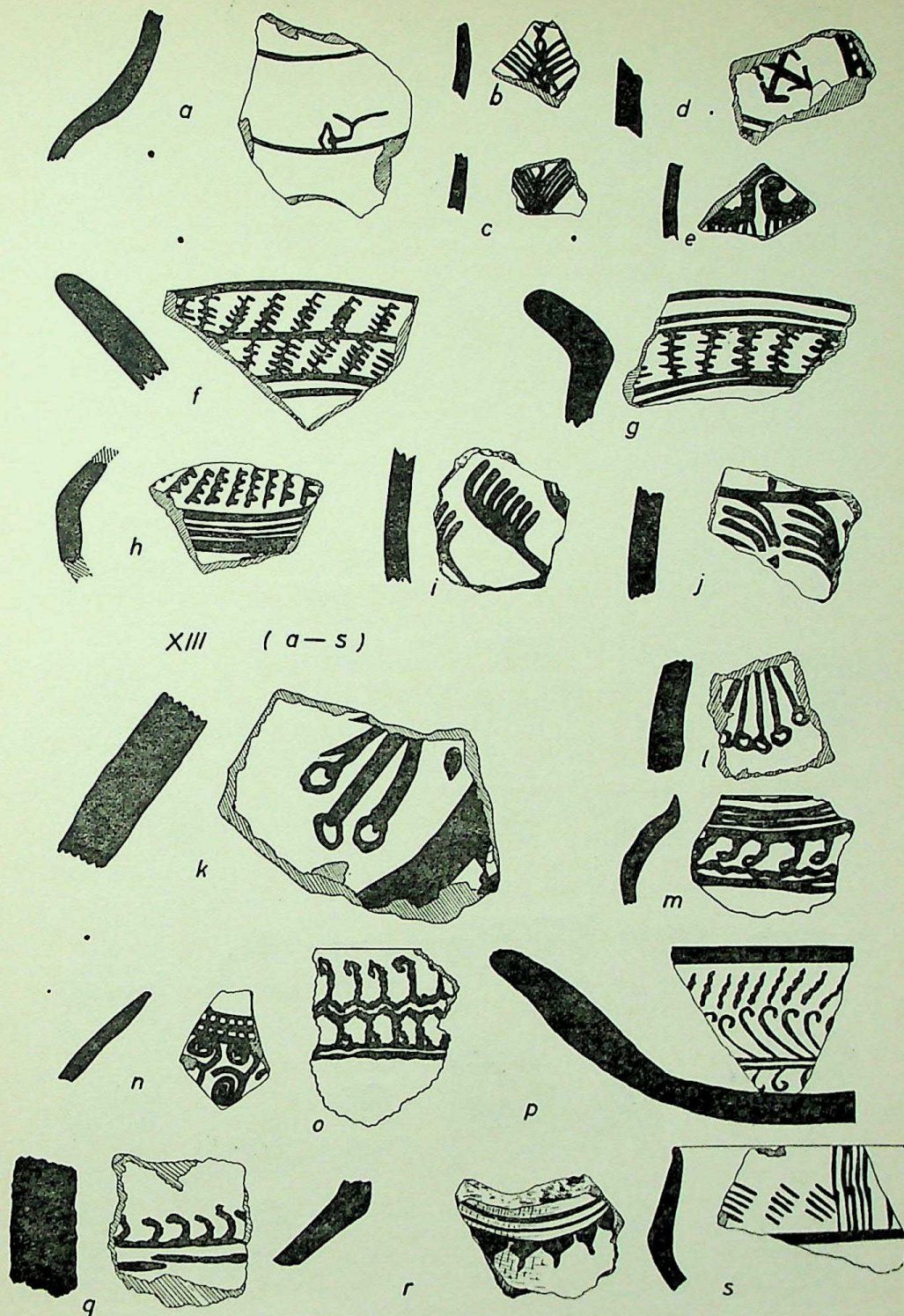


Fig. 52 Miscellaneous (combinations of designs I-XII). NVT. Period III. (See pp. 126-27.)

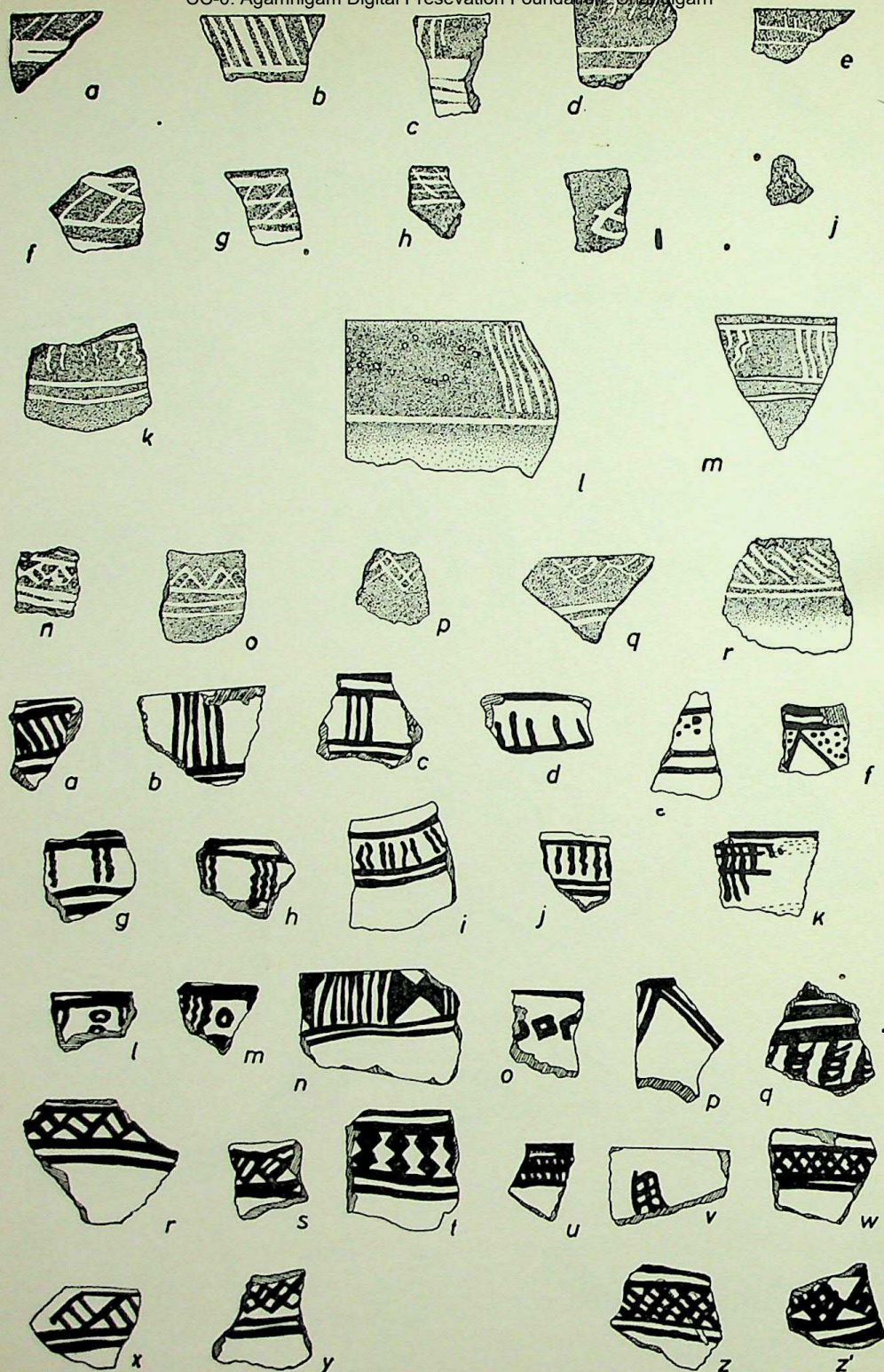


Fig. 53 Designs.

a-r Black-and-Red ware with paintings in white
a-z' White-slipped ware with paintings in black. NVT. Period III. (See p. 127)

POTTERY OF PERIOD III

- XIIIIn Thin, small sherd, smooth light brown slip outside, coarse unslipped inside, with a simple lattice and incipient spirals or volutes. The design is worn out. 6332. NVT. I. i. D (4).
- XIIIIo Thick sherd (See Fig. 49. VIIIc) with vertical hooks.
- XIIIp Thick sherd, dish, a row of slanting hooks with wavy lines on either side of two parallel horizontal lines. (This design is probably derived from the goats or antelope horn design).
- XIIIq Thick sherd, stem of dish-on-stand with a row of short, almost semi-circular hooks.
- XIIIr Thick sherd, shoulder, light red slip, inside very coarse and blackish, pipal-leaf like design with pointed ends suspended from parallel bands round the neck. The only naturalistic design in the whole collection. 24062. NVT. III. iv. B (4).
- XIIIs Sherd, bowl, light red matt slip on both surfaces, having on the outside a group of vertical lines and groups of oblique strokes in panels (?) resting on a thick horizontal band. NVT. I. ii. (1).

Fig. 53

(i) DESIGNS ON BLACK-AND-RED WARE

These can be broadly classified into :—

- (a-b) Oblique lines along the rim edge, in a group or in a row (since there are no complete specimens, it is difficult to decide which) resting on horizontal line or lines.
- (c) Group of vertical lines resting on horizontal lines.
- (d-e) Short oblique strokes touching or separate from horizontal lines.
- (f-h) Oblique lines cutting or in between horizontal lines.
- (i-j) Triangular or arrow-head decoration.
- (k) Group or row of wavy vertical lines between horizontal lines.
- (l) Group of oblique lines and dots arranged in a knot-like shape forming panels.
- (m) Group of vertical and step-like wavy lines in panels.
- (n) Oblique parallelograms in a row with dots in between.
- (o) Overlapping triangles over horizontal lines.
- (p) Latticed zigzag.
- (q) Group of semi-circular lines forming a " chest-like " design.
- (r) Group of three oblique strokes on horizontal lines.

(ii) DESIGNS ON WHITE-SLIPPED WARE

The designs on this ware are not quite different from those on the black-on-red ware. In fact, more than half—types n, p and r-z— are found in the last mentioned ware, whereas oblique or vertical lines—straight or wavy—between horizontal bands are met with in the black-and-red and black-on-red. Thus eliminating both these groups, we have a few, for

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instance, the designs, e, f, l, m, o, which seem to be special to the white-slipped ware. These alone are, therefore, described :—

- (e) Group of black dots between horizontal lines.
- (f) Group of dots on either side of a triangle, forming panels.
- (l) Hollow circles, between vertical lines, forming panels.
- (m) Hollow circles, between vertical wavy lines, forming panels.
- (o) Thick-lined, hollow diamonds.

In addition, there are the Dancing Human Figures and stylized animals (See Figs. 42-43).

INCISED DESIGNS

In this period we have also a small percentage of incised pottery. It is naturally confined to unpainted ware. Amongst the latter, red ware predominates. The fabric though coarse, is extremely well baked, so that we have a stone-like ware. Such fine baking was also necessitated by the fact that generally the vessels were very large, thick-walled and required for long term storage.

The incised designs are deep and done with a sharp instrument. In a few cases, it may be possible to follow the development of a design from a row of simple punctured dots to a more complex form. Since the sherds available for knowing the forms were very few, the plates have been arranged with a view to giving an idea of the various designs.

Fig. 54 (Ia-f; IIa-g.)

This figure illustrates sherds having

- (i) a single or double row of punctured irregular dots.
- (ii) row of oblique strokes ultimately forming a chevron with its open end to the right or to the left.

I Dots and strokes

- Ia Small sherd, blackish core and under surface. A single row of punctured dots. 14120. NVT. I. ii. F (6).
- Ib Sherd, stone-like fabric, blotchy, double row of incised dots. 21335. NVT. III. iv. K (2).
- Ic Sherd, reddish surfaces, a row of thinly but symmetrically—as if by a machine—punctured strokes. Cf. rouletting. 7269. NVT. I. i. G(4).
- Id Sherd, rim, blotchy, a row of very deeply incised oblique strokes below the rim. 21526. NVT. III. iv. K (4).

POTTERY OF PERIOD III

- Ie Sherd, rim, similar as above, incised strokes longer, and a few crescentic. 23231. NVT. III. v. A (5).
- If Large sherd of a very thick-walled 'coil made', short rimmed storage jar. Well baked red surfaces. A row of lightly incised symmetrical oblique strokes on the shoulder. 9404. NVT. I. i. B (4).

II Simple Chevrons

- IIa Sherd, deeply incised oblique strokes, not yet joined to form a chevron. 23383. NVT. III. v. A (6).
- IIb Sherd, having a thinly but deeply incised oblique strokes on either side of a slightly raised horizontal median ridge giving the impression of a chevron. 24119. NVT. III. v. B (5).
- IIc Sherd, deeply incised chevron. 23380. NVT. III. v. A (6).
- IId Sherd, coarse brown surfaces, blackish core, chevron very deeply incised. 24281. NVT. III. v. B (6).
- IIe Large sherd, neck of a large vessel with everted rim, incised comma-like strokes round the neck.
- IIf Thick sherd, coarse, light reddish grey surfaces, chevron with arms to the right. 21926. NVT. III. iv. L (3).
- IIg Thick sherd, light brown surfaces, black core, very thinly and finely incised chevron. 21384. NVT. III. iv. K (3).

Fig. 55 (IIIa-k)

III Complex Chevrons

The chevron design shows a further development. Instead of opening to the right or left, first an oblique stroke is added above or below the open arm, and later at both the places, or later one of the arms is cut, with the result that we have a broad horizontal W or M. Further, this design is incised at times on an applique band to heighten the effect of the decoration.

- IIIa Very thick, heavy sherd, deeply incised, complex chevron on a raised band. 10817. NVT. I. i. C (7).
- IIIb Very thick sherd, chevron with broadly incised arms, its lower arm cut obliquely. 14622. NVT. II. iii. D (12).
- IIIc Thick sherd, very thinly and firmly incised chevron. 20732. NVT. III. iv. D (3).
- IIId Thick sherd, broadly incised chevron. 21185. NVT. III. iv. J(3).
- IIIe Fragment, rim, narrow-mouthed storage jar, smoothed red surface, inside coarse. Complex chevron round the neck. 12392. NVT. I. i. H (7).
- IIIf Fragment, rim, comparatively narrow-mouthed vessel, well baked red surfaces and core. Broad M-or W-like well incised chevron. 8013. NVT. III. v. B (6).
- IIIg Fragment, as above, but the chevron cut by oblique strokes. 24288. NVT. III. v. B (6).
- IIIh Fragment, finely incised chevron facing opposite direction. 2322. NVT. I. i. B (5).
- IIIi Fragment, very finely incised chevron. 7636. NVT. I. i. H (4).

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- IIIj Fragment, full everted rim, reddish-black ware, chevron-like very thinly incised decoration. 3197. NVT. I. i. F (3).
- IIIk Fragment, shoulder, red ware, very broadly incised M or W-like chevron, above a very well marked rounded border. 22362. NVT. III. iv. M (3).

Fig. 56. (IVa-f)

IV Criss-cross

- IVa Very large fragment, short everted rim, well burnt reddish surface, criss-cross design on the shoulder. 6405. NVT. I. i. D (4).
- IVb Small fragment, short everted rim, blackish core, criss-cross design. 1386. NVT. I. i. C (3).
- IVc Fragment, everted rim, black ware, criss-cross design along the neck. 2428. NVT. III. v. B (6).
- IVd Large fragment of a thick walled storage jar, coarse but stone-like fabric, short everted neck, criss-cross design on the shoulder. 5945. NVT. I. i. C (4).
- IVe Large fragment, shoulder, blotchy red and black, row of deeply incised oblique strokes. The intermediate raised portions are then cut by small oblique strokes or even dots at right angles. 23706. A. A (7).
- IVf Fragment, carinated belly, with raised and deeply incised border. Red ware. 24486. NVT. III. v. B (7).

Fig. 56A (Va, VI a-b, VII a-i)

In this figure, the principal type of vessel is a bowl with a prominent ridge at the belly, rounded base and a broad, flat everted rim. The incised decoration is on the rim and/or the shoulder. It is of three types :—

- (i) chevron, plus diamonds and zigzag.
- (ii) zigzags, and
- (iii) zigzag forming a variety of lattice.

The ware is generally black or ashy black but there is one of red ware also.

- Va Large fragment, sharply angular belly, ashy black, well incised chevron or herring bone design, diamonds, and zigzags with strokes at right angles. 80013. I. ii. C (1).
- VIa Fragment, carinated belly with a projecting border, ashy black ware, zigzag or V-design and horizontal grooves above and below. 6398. NVT. I. i. 1a(4).
- VIIb Fragment, rim and base of a bowl, round-bottomed with a flat outgoing rim. Blotchy black ware. Finely scoured zigzags or V's on the rim. 1726. NVT. I. i. E (2).
- VIIa Fragment, small outgoing rim, black ware. Incised triangles with lattice. 21930. NVT. III. iv. E (3).
- VIIb Half of a small bowl, low everted rim, carinated belly, rounded base, ashy black ware, finely incised lattice along the shoulder. 12388. NVT. I. i. E (3).
- VIIc Fragment, belly, lattice within triangles. NVT. I. i. D (3).
- VIIId Fragment, belly, black ware, broad parallelogrammatic lattice.

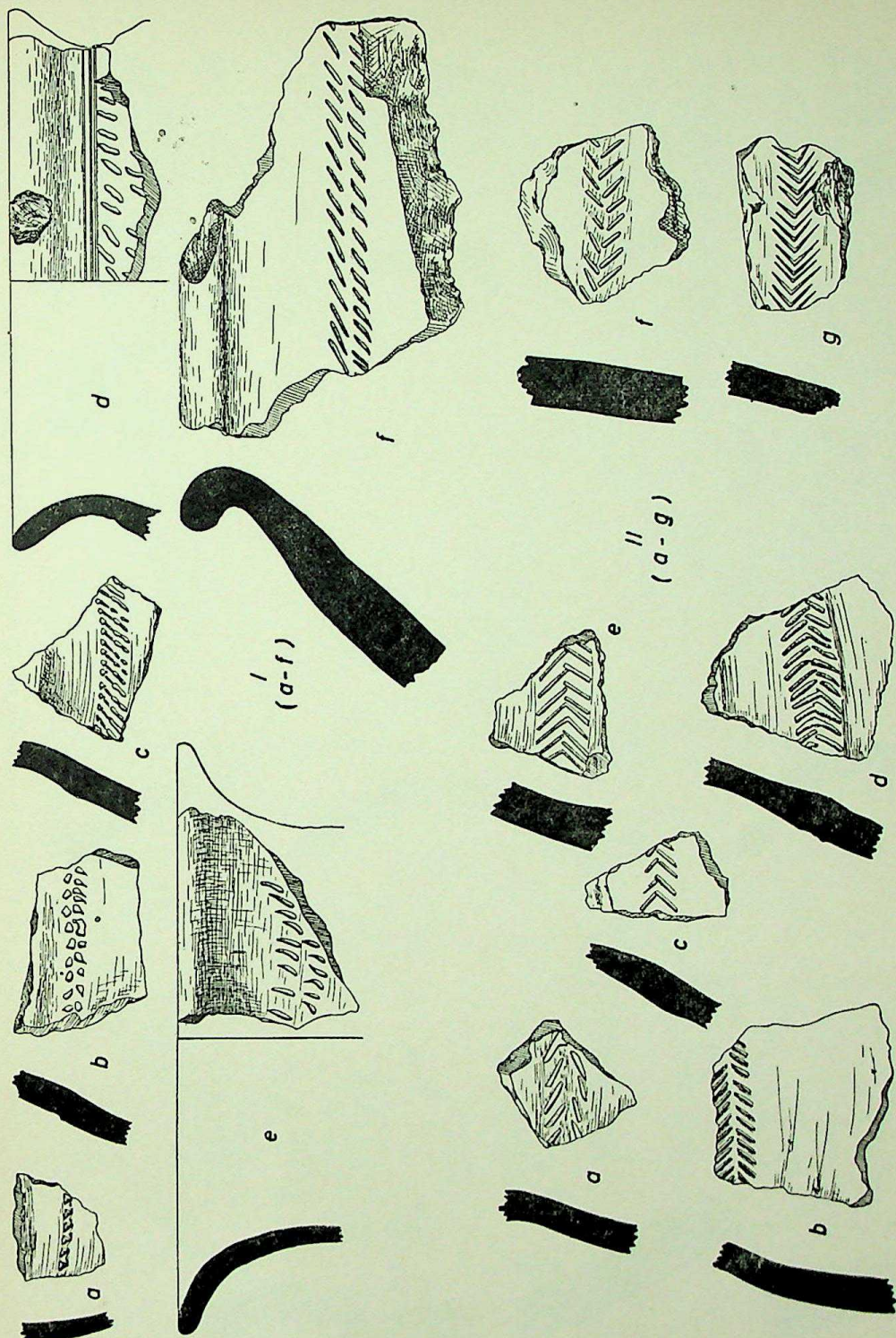


Fig. 54 Incised designs Ia-Ii—Dots and strokes; IIa-IIg Chevrons. NVT, Period III. (See p. 128)

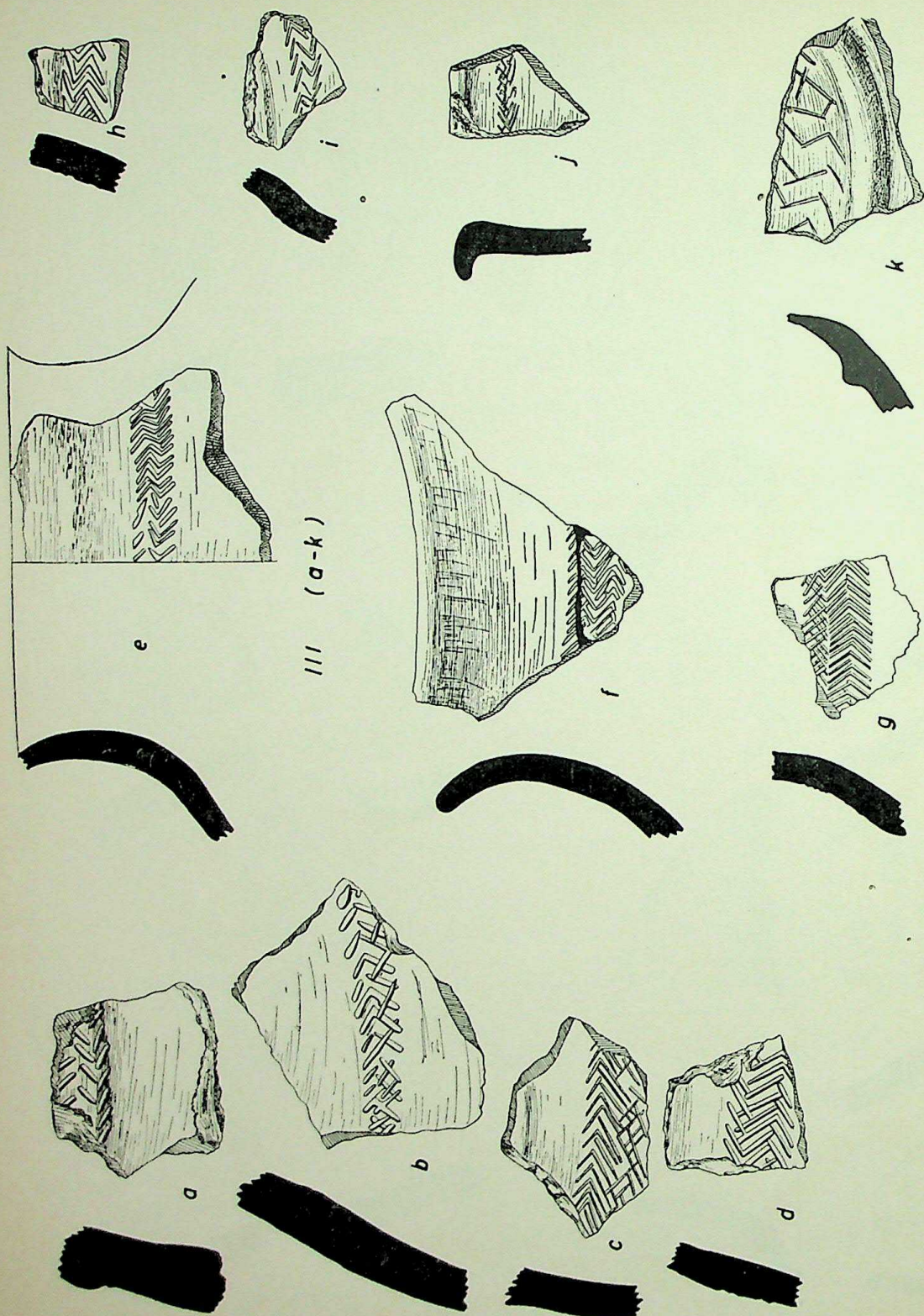


Fig. 55 Incised designs IIIa-IIIk—Complex Chevrons. NVT. Period III. (See p. 129)

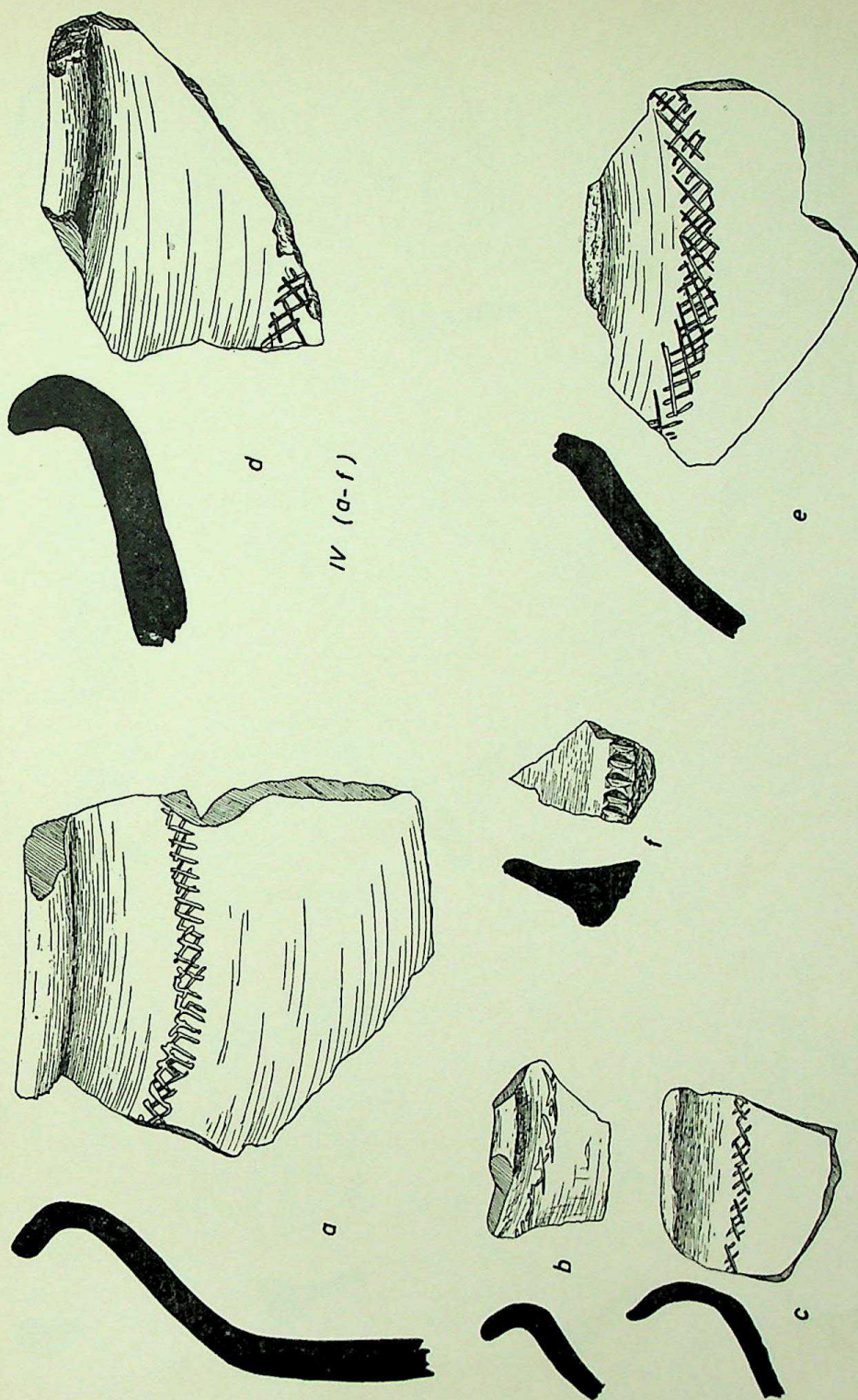


Fig. 56 Incised designs IVa-IVf—Crisscross, NVT. Period III. (See p. 130)

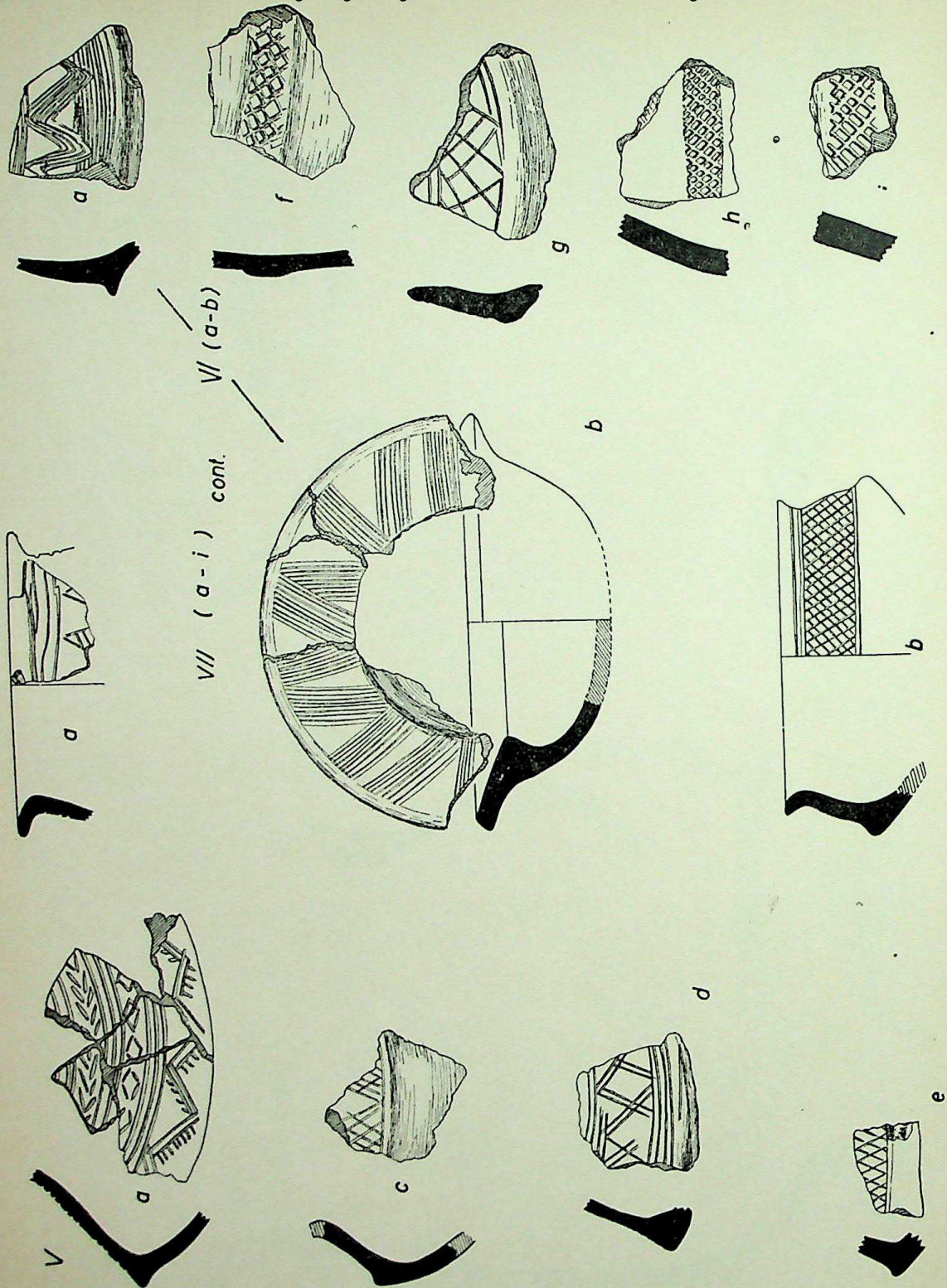


Fig. 56A Incised designs. Va, Vla-b, Vila-i Chevrons, Zigzags and lattice. NVT. Period III. (See p. 130)

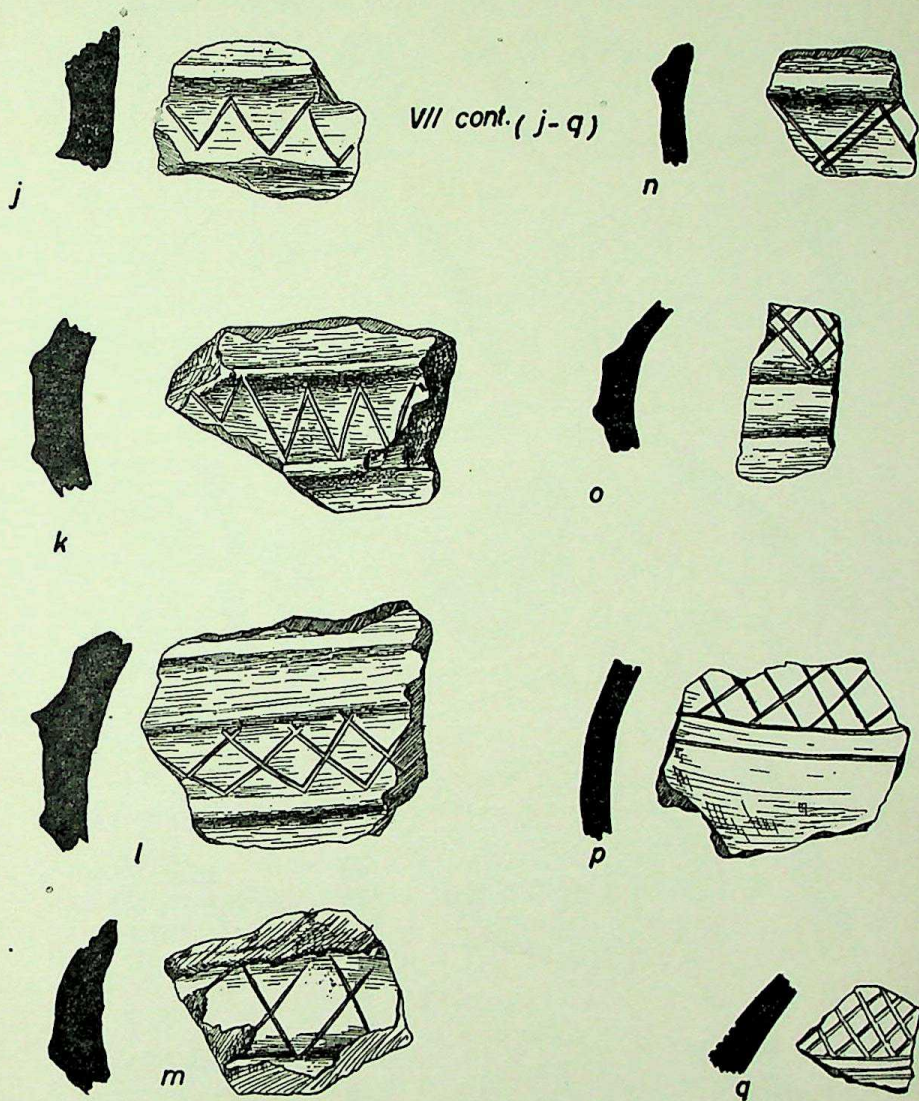


Fig. 56B Incised designs. VIIj-g Zigzag and lattice. NVT. Period III. (See p. 131)

viii (a-j)

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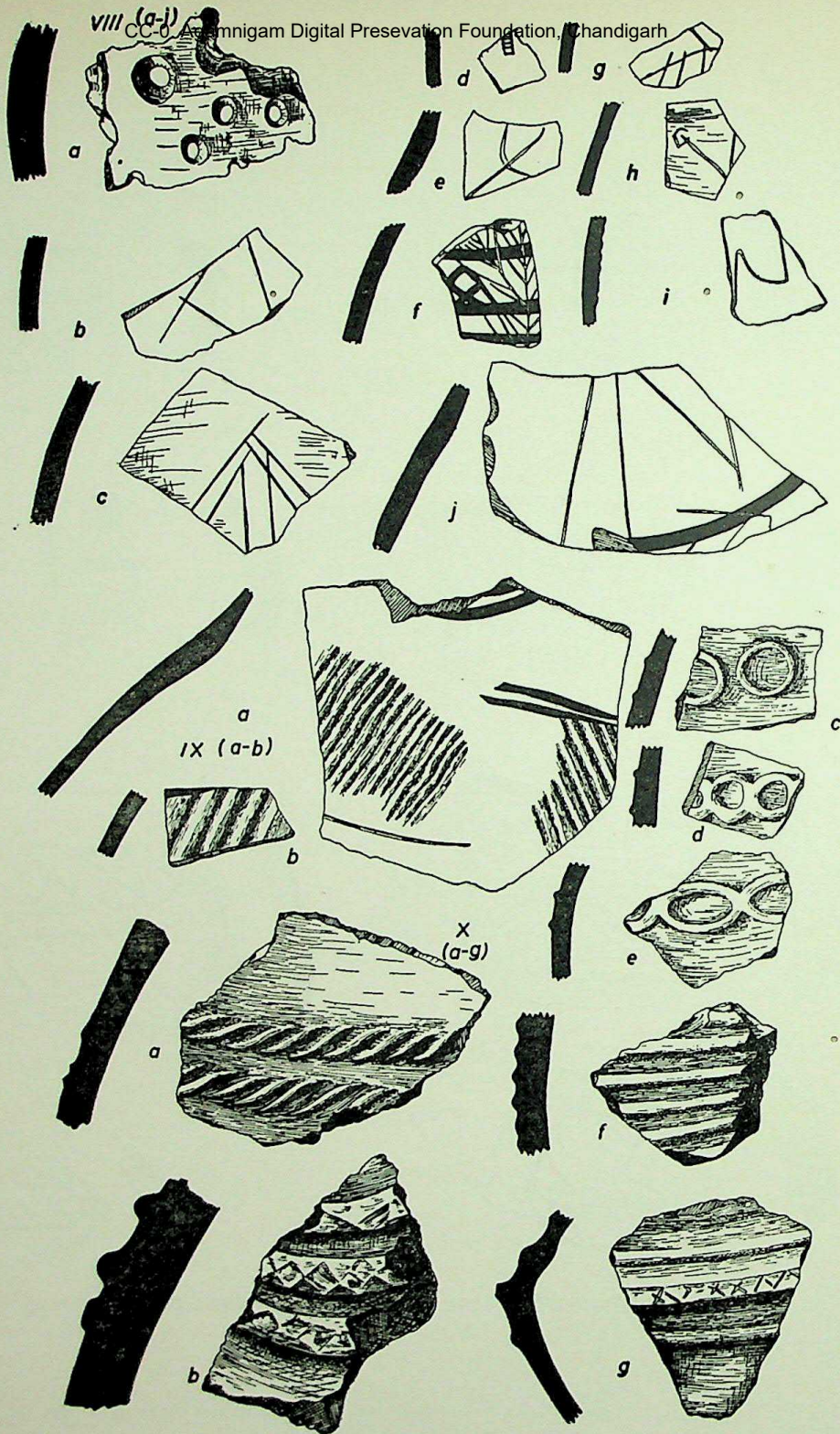


Fig. 56C Designs Villa-j Perforated and graffiti
IXa-IXb Ripple-marked
Xa-xg Applique and incised. NVT. Period III. (See pp. 131-32)

POTTERY OF PERIOD III

- VIIe Fragment, belly, black ware, diamond lattice. 6614. NVT. I. i. E (4).
 VIIf Fragment, red ware, raised band with diamond lattice. 13210. NVT. II. iii, C (5).
 VIIg Fragment, rimless bowl with inturned side, carinated belly, blotchy red outside, inside black, criss-cross design on the shoulder. 14410. NVT. II. iii. D (11).
 VIIh Fragment, red ware, diagonal lattice. 5959. NVT. I. i. (4).
 VIIi Fragment, red ware, diagonal lattice. 22357. NVT. III. iv. M (5).

Fig. 56B (VII j-p.)

- VIIj Fragment, red ware, zigzag within a groove made by raised border. 23375. NVT. III. v. D (6).
 VIIk Fragment, red ware, cracked surface, design as in VIIj.
 VIIl Fragment, red ware, two grooves, the lower having a well incised irregular parallelogrammatic design. 23687. NVT. III. v. A (7).
 VIIm Fragment, red ware, worn out surfaces, lightly incised parallelograms. 24293. NVT. III. v. B (6).
 VIIn Fragment, red ware, zigzag formed by two parallel lines. 10963. NVT. I. i. D (7).
 VIIo Fragment, black ware, lattice by double lines above a groove. 21628. NVT. III. iv. K (4).
 VIIp Fragment, blotchy black and red, incised lattice and two parallel grooves below. 24489. NVT. III. v. B (7).

Fig. 56C (VIIIa-j ; IXa-b ; Xa-g)

PERFORATED AND GRAFFITI

A few sherds have a graffiti design, whereas only one is found with perforations.

- VIIIa Fragment, probably base of a thick walled vessel with perforations. Light brown coarse ware, hand made (?). 4105. NVT. I. i. G (3).
 VIIIb Sherd, fine red fabric, incised triangle. 4835. NVT. I. i. H (3).
 VIIIc Sherd, fine fabric, arrow-like figure in double incised lines. 2417. NVT. III. v. B (5).
 VIId Small sherd, fine fabric with red slip, step-like incised decoration. 8775. NVT. I. i. F (5).
 VIIIE Sherd, fine fabric, light red slip, bow and arrow-like incised decoration. 4106. NVT. I. i. G (4).
 VIIIf Sherd, fine fabric, light brown surface with faint black paintings and plant-like incised decoration over it. 22900. NVT. III. iv. B (1).
 VIIIg Sherd, chocolate coloured surface with incisions. 24019. NVT. III. v. B (3).
 VIIIh Sherd, fine fabric, light red slip, with a stylized figure of a man (?). Only the head is seen in this sherd. 12470. NVT. I. i. E (4).
 VIIIi Sherd, red slip inside and out, with grooves within, curved incised decoration on the outside.
 VIIIj Large sherd, fine fabric, incised decoration on a burnished surface. 6662. NVT. I. i. D (4).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

IX RIPPLE-MARKED

- IXa Large sherd, shoulder, fine ware with red slip, painted, with oblique ripple marks in addition. 7101. NVT. I. i. F₁(4).
- IXb Small sherd, light brown slip, fine ware, painted and with ripple marks. 5956. NVT. I. i. B (4).

X APPLIQUE

- Xa Large thick sherd, coarse dark brown slipped surface with a double row of cord marks or applique bands with oblique grooves. 20589. NVT. III. iv. D (2).
- Xb Very thick sherd, but well baked red ware with three raised applique borders which bear shallow impressions. 21156. NVT. III. iv. J (2).
- Xc Sherd, coarse red ware with shallow raised roundels. 23176. NVT. III. v. A (3).
- Xd Sherd, coarse red ware with roundels touching each other. 23253. NVT. III. v. A (4).
- Xe Sherd, coarse red ware with raised ovals. 4112. NVT. I. i. G (3).
- Xf Sherd, coarse blotchy reddish surface with horizontal grooves. 6663. NVT. I. i. E (4).
- Xg Sherd, belly, fine red slip inside very coarse and brownish. Four grooves with a central incised ridge. 22353. NVT. III. iv. M (5).

VII

POTTERY OF PERIODS IV TO VII

The vast mass of pottery found in the layers of Period IV comprises mainly four types of wares. Of these the most distinct and the least in quantity is the Northern Black Polished pottery, and the most abundant coarse red. The others in the diminishing order are the slipped and burnished red and the black-and-red.

Before entering into the details of the ceramic industry of this period, it would be better to take a stock of the various types of these industries by noting their individual features concerning fabric, firing, shapes and percentage figures as compared to other wares.

The most distinct of all the wares of this period is the NBP. The results of the analysis of the slip of this ware and other details are now well-known.¹ Though it had spread to some of the sites of the Deccan, like Nasik and Nevasa, its yield is so meagre as compared to other wares, that the ware can even now justifiably retain the prefix 'Northern'.

1. *Anc. Ind.*, No. 1, p. 50.

POTTERY OF PERIOD IV

Of the twenty sherds found, thirteen came from stratified deposits. The earliest occurrence in layer 16 of Tr. II at Maheshvar which, along with the find of Punch-marked coins, is useful in dating that and earlier layers of the period to C. 4th-3rd century B.C. The occurrence of a few sherds of the NBP in upper layers in other trenches indicates mere survival ; it is doubtful if it was used on a large scale at any time in the past at Maheshvar and Navdatoli.

Taking into consideration even the surface collection, the NBP could be grouped into three categories or fabrics as follows :

Fabric one	..	..	..	..	thickness	1.5 to 3	mms.
Fabric two	..	..	..	..	thickness	4 to 5.5	„
Fabric three	..	..	..	..	thickness	5.5 to 8	„

It may be noted here that the sherds from the earliest layers viz., 16 and 12 of Tr. II at Maheshvar fall in the second category, while the thinnest is from the surface.

The study of the slips and cores of the NBP reveals a wide variety, some features being quite new to the standard NBP known so far. For instance, the slips vary in lustre and colour as they are either steel-blue, silvery¹, lustrous gold-blue or shining brownish-black. The slip found over a majority of sherds, and hence the normal, is steely blue-black polished to a fine shining lustre. In several cases, the slip has worn out exposing the original reddish surface of the ware. The core also, though in a majority of cases grey, has slight variations. For instance, sherd No. 341 though having the patent steely-blue lustrous surfaces, has a core which is partly grey and partly brown. In the case of No. 644, the slip is the usual steely-blue, but the core is compact and reddish. It is likely, therefore, that these are imitations of the real NBP or, may be, new varieties. Besides the varieties of core and slip, the NBP from Maheshvar shows a remarkable range of thickness, as it varies between 1.5 and 8 mms.

Regarding the shapes, very few sherds are useful. Save three, all the rest are too fragmentary to give any idea of the shape of the pot of which they formed a part. Even in the three pieces, there is no variety, as two of these are edge-pieces of a rimless bowl—a shape well-known in this fabric.

1. Similar varieties have been found in the excavations at Kausambi.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

The foregoing discussion shows that the NBP proved to be a key-find to date the layers of the Early-Historic cultures, and secondly, that the Maheshwar specimens do show some new fabrics.

The next ware of importance is the *black-and-red* which is more abundant than the NBP, but less so than the Red Ware which will be dealt with next. It is well-known that this ware has been found at several sites in the Deccan as also in Rajasthan, Saurashtra and Orissa. It has a semblance with—though the affinity to is not as yet clear—the more famous and better-made Megalithic Black-and-Red.

That the ware was fashioned on a wheel is certain from the fact that a convincing majority of the sherds reveal regular and well-defined striation marks which also implied the use of a fast wheel. That the pots were kept upside down with the outer bottom exposed to the air is evident from the fact that these exposed outer bases are invariably red due to oxidisation. This is due to what is known as the "inverted firing" technique.

The clay used for this type of pottery is definitely of a poorer variety as compared to that of the NBP. In the case of the latter, a well-levigated clay devoid of all impurities was used. The black-and-red pottery of NVT and MHSR shows, in a majority of cases, the use of a clay full of impurities like silica and straw pieces. It may, however, be granted that in some cases these were used deliberately as a binding material or *degraisant*. This and inadequate firing has left the core porous, gritty and dull black. In some cases, the heat could penetrate only a part of the core which has resulted in the partial reddening of the core.

The use of slip has been uniformly made and there are hardly any sherds whose surfaces are not burnished. In some cases, the slip and the burnishing have partially been wiped out, due possibly to much use. In the case of complete specimens it was found that the interior was invariably black slipped and burnished, while a part only near the rim or edge, as the case may be, was burnished on the outer surface. There are also a few specimens with blotchy surface.

The shapes employed in this ware and belonging to this phase are not many. Actually, the excavations at Nasik, Nevasa, and Kolhapur have revealed a wide range of shapes. At NVT and MHSR, early historic layers, however, show only three shapes, to wit, rimless bowls, dishes and basins. This is really surprising since a wide variety flowers out in the

POTTERY OF PERIOD IV

succeeding phases. Even among the three shapes noted above, dishes are few and still less are basins.

The most important aspect of this ware is its date. Previously, the *black-and-red* ware was termed "the Satavahana Ware" since its association with the coins of the Andhra dynasty. The evidence at MHSR-NVT, Nevasa, Ahar and Somnath recently, has brought to the foreground the urgency of reconsidering this dynastic name and the date. The find of NBP at several places along with the black-and-red claims a greater antiquity for the latter, at least pre-Satavahana. The layerwise count of the ware at MHSR-NVT shows that the black-and-red, in some form or the other, was known to the NBP levels. This observation, though it would appear to be rather out of tune with the view so far held, is corroborated by the evidence at Nevasa where the lowermost Satavahana-Mauryan levels did yield the black-and-red of the usual variety.¹

Yet, here a word of caution may not be out of place. The proto-historic layers of NVT did yield a certain amount of black-and-red which had traces of white linear painting on the outer rim-portion. This ware though fired by the process of 'inverted firing' is thinner and smaller in size and shapes when compared with the usual black-and-red. Unless, however, other sites yield an abundant quantity of both these wares, it would not be possible at this stage to say anything more than this. Yet the MHSR-NVT and Nevasa evidence has done enough to urge a reconsideration of the date of this ware.

One more point. A few of the pots of the black-and-red seem partially to have been fashioned by hand. But most of these were fashioned on a wheel as is evidenced by striation marks. This is further corroborated by the find of a few base-pieces. These have retained distinct thread marks when the pot was cut off from the unfashioned lump of clay on the wheel.

The most abundant ware of this period is the *Coarse Red*. This is possibly due to the fact that the coarse ware, being of a less pure variety, imposed less cost of production and labour on the potter. Devoid of any slip, burnishing or polishing, this ware evolved strictly

1. Recent excavations at Lothal (Gujarat), a Harappan site, have brought to light the existence of the black-and-red ware in the Proto-Historic Levels. A study of the ware shows its close affinity, not only in technique but also in some shapes, to the black-and-red of the early historic period. The author's thanks are due to Shri S. R. Rao of the Deptt. of Archaeology, Government of India, for bringing the material to Poona for study and discussion.

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utilitarian scheme of shapes which very probably implied rough use, for instance, thick-sided *Kundās*, lids, storage jars, pans, *panṭis* and gourd-shaped vessels,—the last similar to those used on a Persian water-wheel in a chain or series.

The core of the utensils of this ware is, in a majority of cases, found to have been made of a clay which was mixed with finer sand, grass and sometimes fairly medium-size sand. Thick sides being a characteristic of this ware, coarse sand etc., seems to have been deliberately mixed in clay as a binding material. The firing, being imperfect, does not penetrate the entire core and hence the core of this ware shows a black with brown on either side.

With all its roughness, however, two things are remarkable regarding this ware. First is that the thick vessels are hand-made while the others like bowls, dishes etc., are wheel-made. Even in the case of the *Kundās* etc., the surfaces are so finished that, but for the outer bottom, all the other parts are smooth, though devoid of burnishing. The other factor is that this ware bears decorations which are mostly in the form of grooves or incisions. The thickness of the walls was a factor which facilitated decoration without damage. Some also bear traces of a thin wash.

Next in abundance stands the *Red-slipped and burnished ware*. As compared with the coarse red, this ware has a delicacy in the sense that its surface bears a thick red to orange-brown slip which covers both the surfaces. This has made the surface of this ware smooth, save where the slip has flaked off exposing the rougher interior. The core does not differ much from that of the coarse red ware, though the clay used is decidedly of a purer quality.

The vessels of this fabric are made on wheel, though, as in the case of *Surāi* (T. 85) the high neck seems to have been affixed later on to the elongated body. Thus this type seems to have been fashioned in parts. Another point to be noted is that some of the shapes of the thick coarse-red ware are absent in the Red-slipped ware and *vice versa*. This strengthens the observation made above that the coarse thick ware was meant for rougher use, and hence some shapes of this are not to be found in this more delicate and well fashioned Red-slipped ware.

This ware is also characterised by a variety of rims and bases. The former comprise squared rim, bevelled edge, beaked and beaded rims and so on, while the latter consist of flat, discoid and ringed bases. The shapes most common are rimless and carinated bowls, *surāi*, high-necked vessels

POTTERY OF PERIOD IV

and short-necked ones, and the decorations are mostly in the form of a series of shallow grooves on the outer surface.

The least abundant is the *coarse black ware* represented by very few sherds. These indicate the predominance of a globular vessel. It is likely that these were most probably used in cooking.

The *grey-slipped ware* is represented by a few sherds. The core is gritty and blackish, and the outer surface is found to bear a greyish thick slip. No generalisation regarding shapes is possible as the amount of this pottery was much less than others. The lid with a domical roof, it may be noted, is a shape which is found even in other fabrics of this phase.

We have so far discussed the different wares of Period IV, as also the various shapes of different wares. The percentage figures of the occurrence of different wares throw an interesting sidelight and form an important feature of the study of the pottery of this phase. It may be made clear here that the count of pottery in different layers which forms the basis of the percentage figures was not done by counting each and every sherd of a particular ware, but counting handfuls with an average number of sherds in a standard handful was resorted to. This was essential in avoiding the monotonous process of counting every sherd and at the same time having a rough estimate of the comparative abundance or otherwise of a ware within reasonable limits.

The count showed that the coarse red ware was 47.4% of the total. Next came the slipped-red which was 29.3%. The black-and-red formed only 14.7% while the remaining 9% consisted of coarse black, coarse ashy grey, the painted ware from the mixed layers and so on. It is to be noted that the percentage of the black-and-red decreases in later layers. Thus these figures prove that in Period IV, the ceramic industry changed altogether giving place to newer fabrics. Moreover, the black-and-red, though extant in still earlier phase in some form or the other, came to be an established industry in this phase.

NORTHERN BLACK POLISHED WARE

(Fig. 57)

Rimless Bowls

- T.74 Edge-fragment, with a flat but in-projecting top, sides slightly bulging and getting thinner towards the base, surfaces bright steely blue-black, core compact and grey, thickness 5 and 2 mms. No. 1050, MHSP, II, foundation trench of a wall.

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- T.74a Fragment, bevelled thick edge (8 mms.), sides getting thinner towards the base (2.5 mms.), surfaces having a lustrous silvery-blue polish, original surface red, core compact grey, No. 29, MHSR, I, Surface.
- T.74b Fragment, bowl with bulging sides, rounded edge, outer surface treated with a steel-blue slip not bright, inner surface dull purple, core compact brownish, new fabric, thickness between 3 and 4 mms. No. 799, MHSR, II, ii, V (6).
- T.74c Small fragment, outer surface having shallow corrugations and a dull blue-black slip, original surface bright brown, inner surface with burnished greyish slip, new fabric, thickness 5.6 mms. No. 822, MHSR, II, ii, Y (2).

ASHY GREY WARE

(Fig. 57)

Lid

- T.75 Fragment of a lid with domical roof, lip broken, inner surface black, outer ashy grey with incised, wavy and horizontal lines. No. 20853, NVT, III, iv, H (2).

COARSE RED WARE

(Figs. 57, 58, 59, 60)

Bowls (Fig. 57)

- T.76 Fragment of a hemispherical rimless bowl with coarse, ill-baked, rough surfaces. No. 13177, NVT, II, ii, D (5).
- T.76a Fragment, rimless bowl, slightly convex sides and flat base, core gritty, surfaces coarse. No. 12922, NVT, II, iii, C (3).
- T.76b Fragment of a bowl with thick and flaring sides, flat edges and base, inner surface black, outer red, a neat circular perforation at the side. No. 13174, NVT, II, iii, B (5).
- T.76c Fragment of a bowl with convex sides, overhanging edge and undercut rim on the outer surface, traces of dirty red wash on the outer surface, surface porous. No. 12961, NVT, II, iii, D (3).
- T.76d Fragment of a carinated bowl with beaked edge, smooth surfaces and thick base. No. 1744, NVT, I, E (2).

Dishes (Fig. 58)

- T.77 Rim fragment of a broad dish with thick rounded edge, sagging base and rough surfaces. No. 22847, NVT, III, iv, A (3).
- T.77a Half of a dish with discoid base, inturned tapering edges, a groove on the outer side, traces of soiled red slip inside and outside. No. 90000, MHSR, II, ii, A (13).
- T.77b Fragment of a small dish with thick base and tapering inturned edges, coarse red surface. No. 20475, NVT, II, iv, D (2).
- T.77c Fragment of a dish with inturned side and rounded edge, traces of a red wash. No. 3220, MHSR, II, ii, A (15).

Lids

- T.78 Fragment of a lid with a domical roof, having a lip to fit in with the mouth of container, coarse grey-brown fabric, gritty core, rough surfaces. (Cf. T.75 above). No. 20105, NVT, II, iv, A (2).
- T.78a Fragment of a lid with convex roof and no lip, coarse brown red fabric with traces of reddish wash on the under surface. No. 20468, NVT, III, iv, D (2).

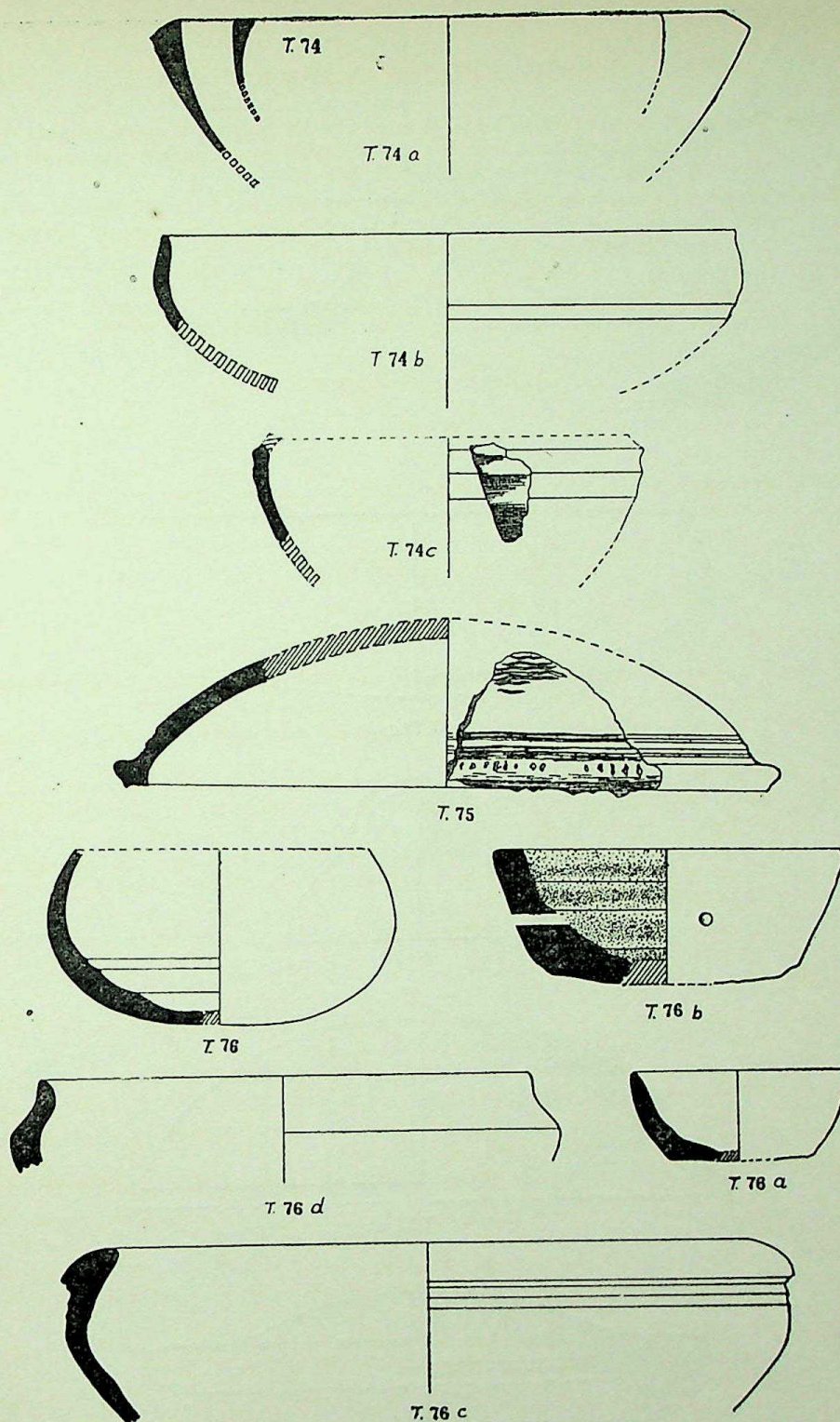


Fig. 57 Types 74-76d [$\frac{1}{2}$]:
 NBP. (T. 74-74c, Rimless Bowls); Ashy Grey Ware (T. 75, Lid);
 Coarse Red ware (T. 76-76d, Bowls). Period IV (See pp. 137-38)

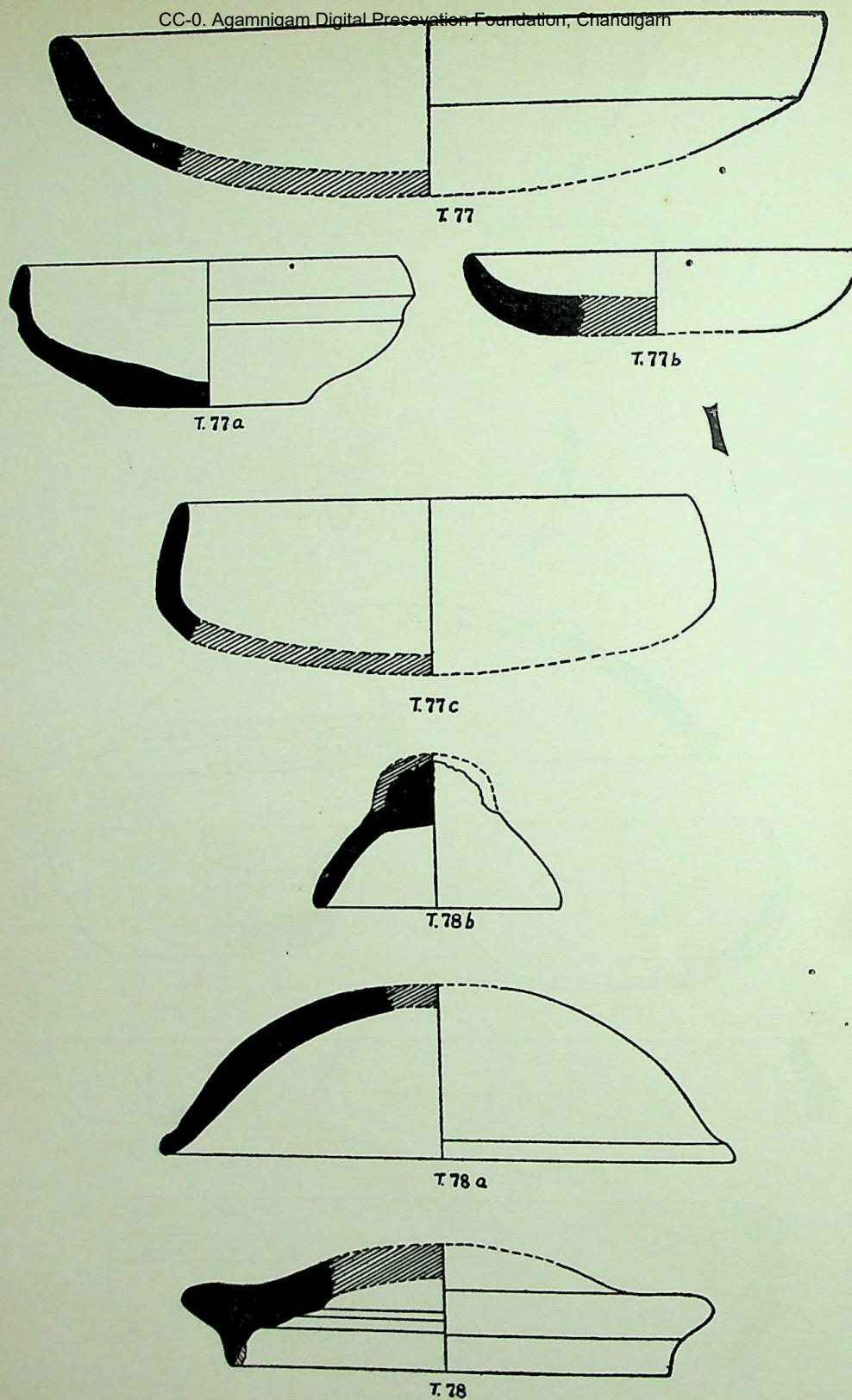


Fig. 58 Types 77-78b [1]: Coarse Red Ware (T. 77-77c, Dishes; T. 78-78b, Lids) Period IV. (See p. 138)

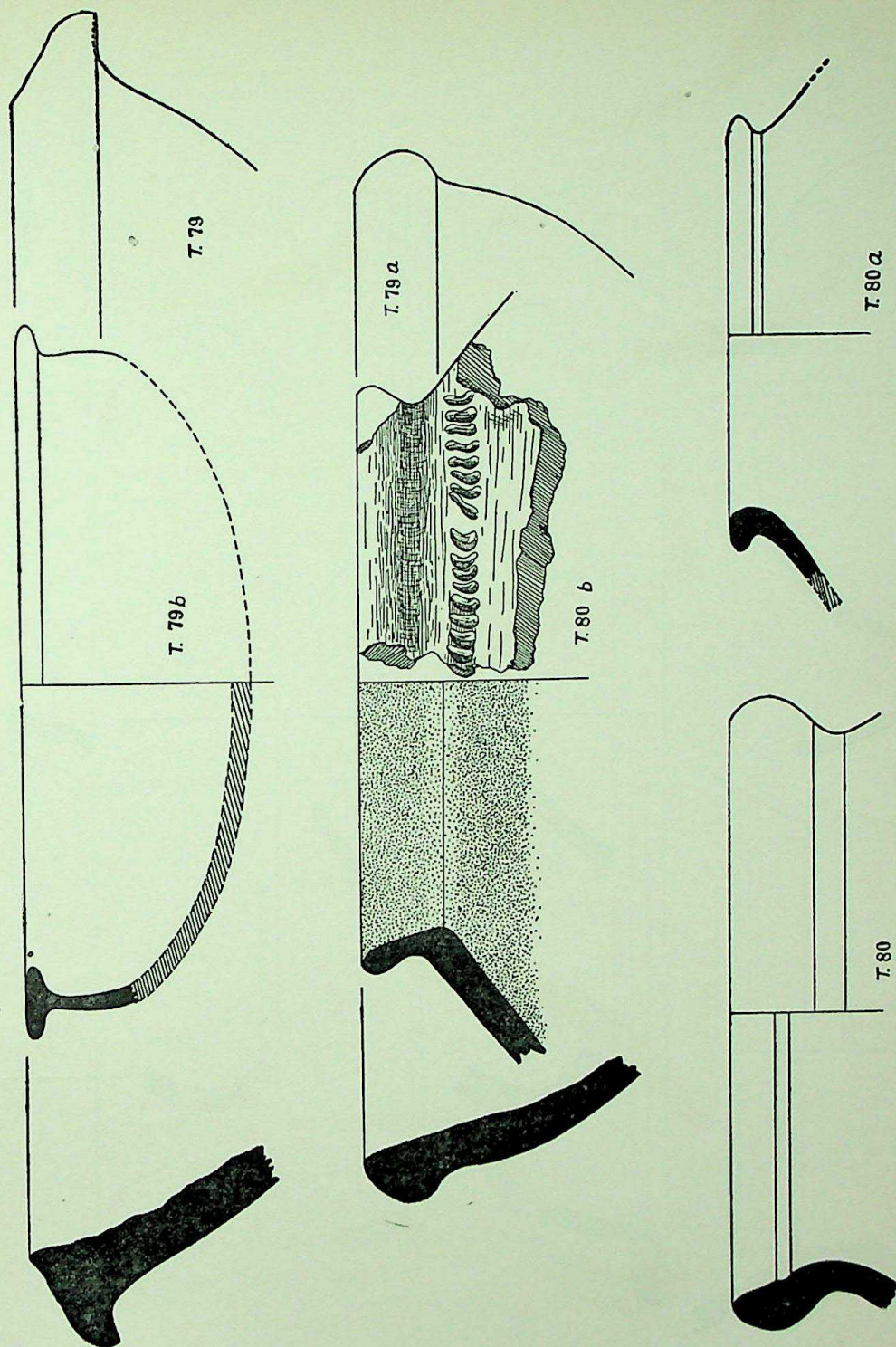


Fig. 59 Types 79-80b [4] : Coarse Red Ware (T. 79-79b, Kundas; T. 80-80b, Short-necked vessels) Period IV. (See p. 139)

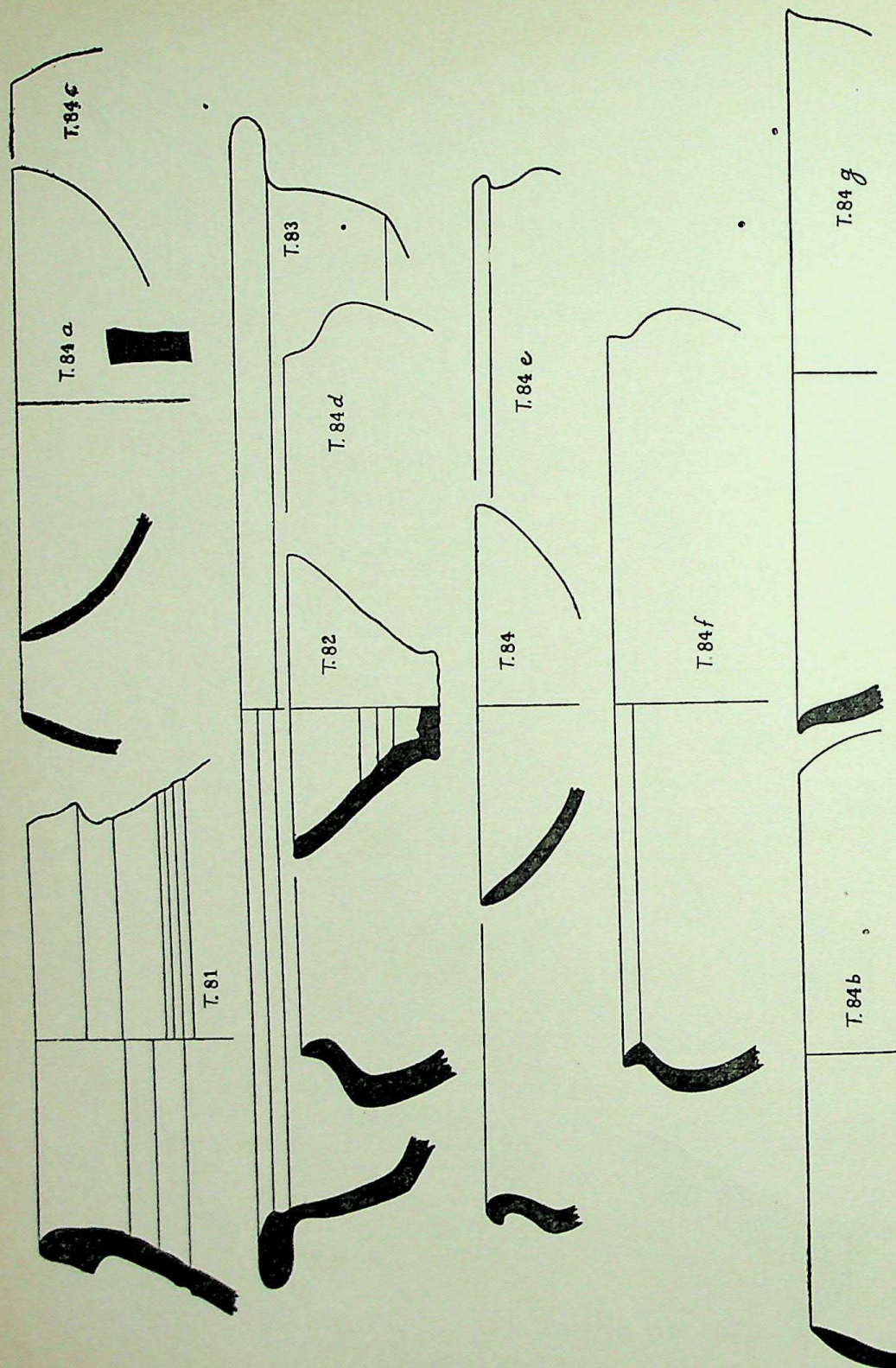


Fig. 60 Types 81-84g. [1] : Coarse Red Ware (T. 81, Short-necked Vessel; T. 82, Pantli; T. 83, Basin); Burnished Red Ware (T. 84-84c, Rimless Bowls; T. 84d-84e, Carinated Bowls; T. 84f-84g, Rimmed Bowls) Period IV. (See pp. 139-40)

POTTERY OF PERIOD IV

- T.78b An almost complete lid of inverted-*panti* shape having horizontal pinched lug on the top, traces of reddish wash, porous surfaces. No. 131212, NVT, II, iii, C(5).

Kundās (Fig. 59)

- T.79 Fragment of a *Kundā* with spread out rim and a flat top, surfaces coarse handmade. No. 20481, NVT. III. iii. D (2).
- T.79a Similar to above but having beaded edge, handmade. No. 21035, NVT. III. iv. I (3).
- T.79b Part of a *Kundā* having medium thin sides, flat top and double-lipped rim, surfaces having a red wash, wheel-made. No. 12934, NVT. II. iii. C (3).

Short-Necked Vessels

- T.80 Fragmentary rim of a short-necked vessel having coarse surfaces, with a convex-rim and pointed edge, core gritty. No. 20223, NVT. III. iv. D (2).
- T.80a Fragment of a small vessel with probably globular body, beaked out rim and surfaces smooth and with a wash of reddish colour. No. 12864, NVT. II. iii. D (3).
- T.80b Fragment of a coarse red globular vessel with out-turned rounded rim, porous surfaces, black inside, with chevrons to right embossed on the outer surface just below the neck. No. 3017, NVT. III. iv. B (2).

(Fig. 60)

- T.81 Fragment of a gourd-shaped vessel with flat, banded rim, surfaces coarse, traces of a red wash, core porous. No. 3226, MHSR. II. ii. A(15).—cf. Nasik, T.1.

Pantis

- T.82 Half of a *panti* having flaring sides, flat edge and discoid base, surfaces rough, inner base having an incised ring. No. 21127, NVT. III. iv. J (2).

Basin

- T.83 Fragment of a basin with carination at the base, outgoing rounded rim, surfaces coarse, core gritty and ill-baked. No. 3410, MHSR. II. ii. A (14).

BURNISHED RED

(Figs. 60, 61, 62)

Rimless Bowls (Fig. 60)*Group A.*

- T.84 Fragment of a rimless bowl with thin and flaring sides, tapering edge, both the surfaces porous, red slipped and gritty. No. 20736, NVT. III. iv. D (3).
- T.84a Similar to above but possibly with a discoid base. No. 20512, NVT. III. iv. D (2).
- T.84b Fragment of a rimless bowl with hemispherical sides and tapering edge, brown-red slip, core flanked on either side by red, purer clay. No. 976, NVT. I. i. A (2).
- T.84c Similar to above but with bevelled edge and well burnished surfaces. No. 13288, NVT. II. iii. B (6).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

*Carinated Bowls.**Group B*

- T.84d Fragment of a carinated bowl with thick sides, beaked rim, thin red slip on both the surfaces, core gritty. No. 23329, NVT. III. iv. A (5).
- T.84e Similar to above but with a beaded rim, surfaces rough, core compact and well baked. No. 1735, NVT. I. i. E (2).

*Rimmed Bowls**Group C*

- T.84f Fragment of a bowl with beaked rim with surfaces having a thick bright red slip, core gritty. No. 21394. NVT. III. iv. K (3).
- T.84g Similar to above but with a light reddish wash. No. 1114, NVT. I. i. B (2).

Surai (Fig. 61)

- T.85 Neck portion of a vessel with probably elongated body (*surai*) and a high neck with rounded edge, a broad shallow groove near the edge possibly serving as a hold, outer surface having scarlet-red slip, the section at the base of the neck showing two distinct layers indicating that the neck was later affixed to the body. No. 984, MHSR. II. ii. A (13).

High-Necked Vessels

- T.86 The rim and the neck fragment of a high-necked vessel with beaded-out rim, orange-slip on both sides, core gritty and black. No. 1109, NVT. I. i. B (2).
- T.86a Similar to above but with thick and out-beaded rim and corrugated. No. 3242, MHSR. II. ii. A (15).
- T.86b Similar to above in shape but with under-cut and bevelled rim, thin red wash, core gritty. No. 13315, NVT. II. iii. B (6).
- T.86c Similar to T.86a but the rim not under-cut. No. 3274, MHSR. II. ii. A (16).
- T.86d Fragment of a high-necked vessel with funnel-shaped rim having bevelled edge, surfaces well burnished, core light red and porous. No. 3396, MHSR. II. ii. A (14).
- T.86e Fragment of a vessel with outgoing, angular neck, with corrugations on the outer surface. No. 3118, MHSR. II. ii. A (13).
- T.86f Fragment of a vessel with beaded rim, surfaces well burnished, core gritty and red. No. 3398, MHSR. II. ii. A (14).

Short-Necked Vessels (Fig. 62)

- T.87 Fragment of a short-necked vessel having flaring mouth, beaded rim with inturned edge, outer surface red, inner black (inverted firing), core gritty, porous and black. No. 1392, NVT. I. i. C (2).
- T.87a Fragment of a big (storage jar-like) vessel with thick sides, and short out-turned rounded rim, outer surface having a reddish wash, core porous, hand-made. No. 23319, NVT. III. v. A (5).

COARSE BLACK

(Fig. 62)

Short-Necked Vessel

- T.88 Fragment of a short-necked vessel with flaring and rounded rim, globular body, having a slanting incised decoration on the outer shoulder, surfaces rough, core porous and black. No. 1000, NVT. I. i. H (2).

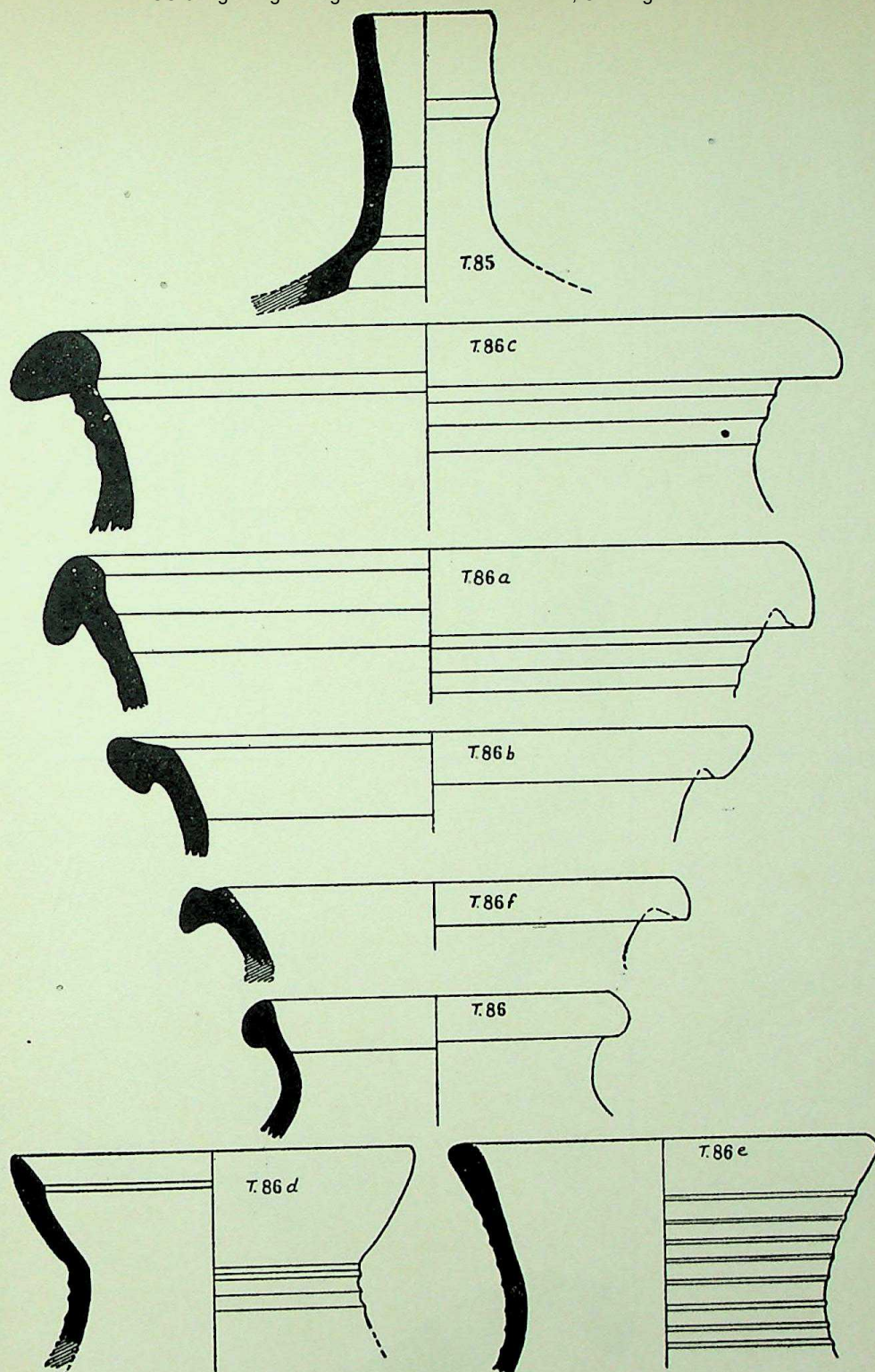


Fig. 61 Types 85-86f [$\frac{1}{2}$]
Burnished Red Ware (T. 85, Sural; T. 86-86f, High-necked Vessels). Period IV. (See p. 140)

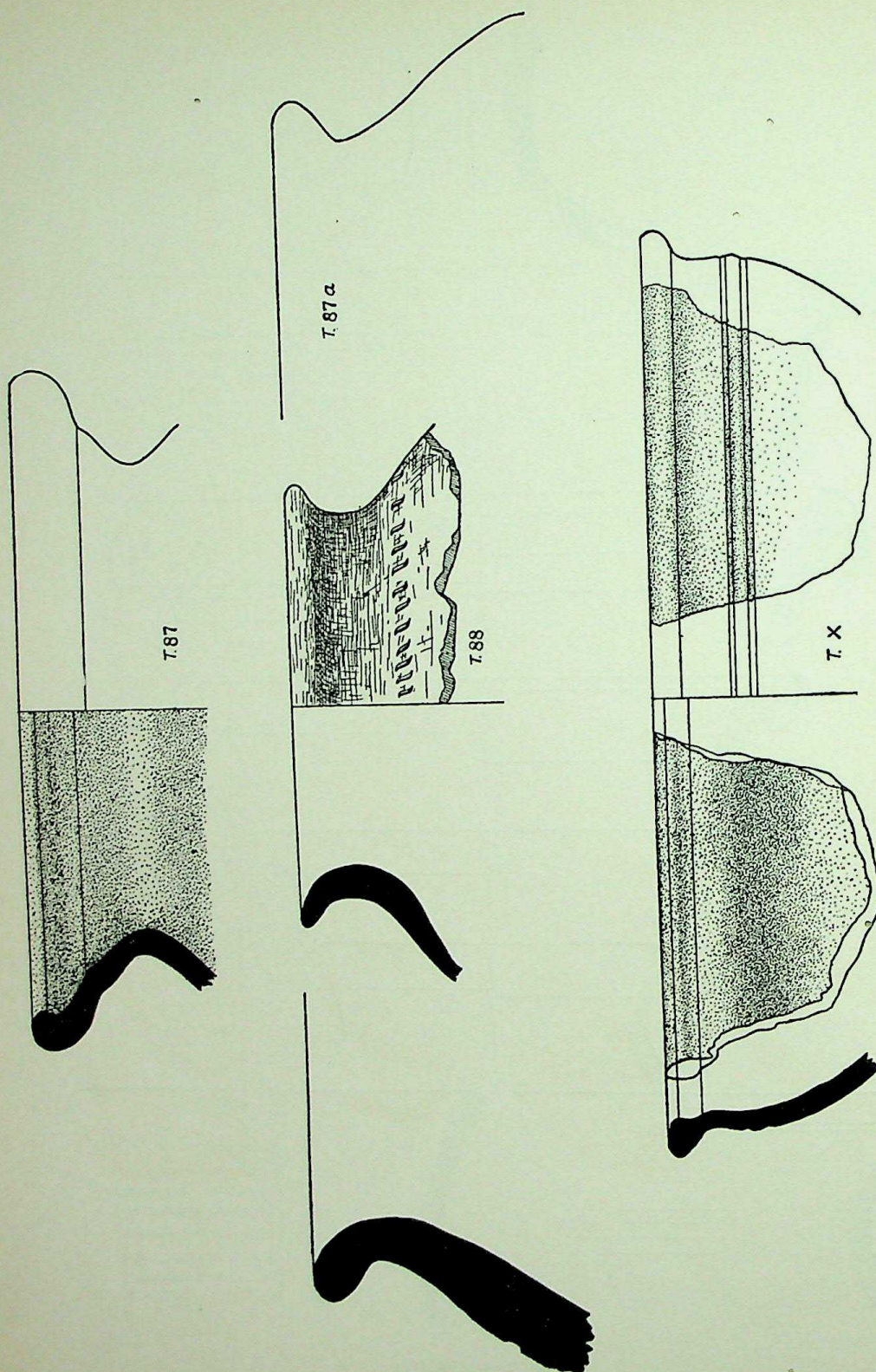


Fig. 62 Types 87-88; x. [1/2]
Burnished Red Ware (T. 87-87a, Short-necked Vessels); Coarse Black (T. 88, Short-necked Vessel); Black-and-Red (T. x, Basin). Period IV. (See p. 140)

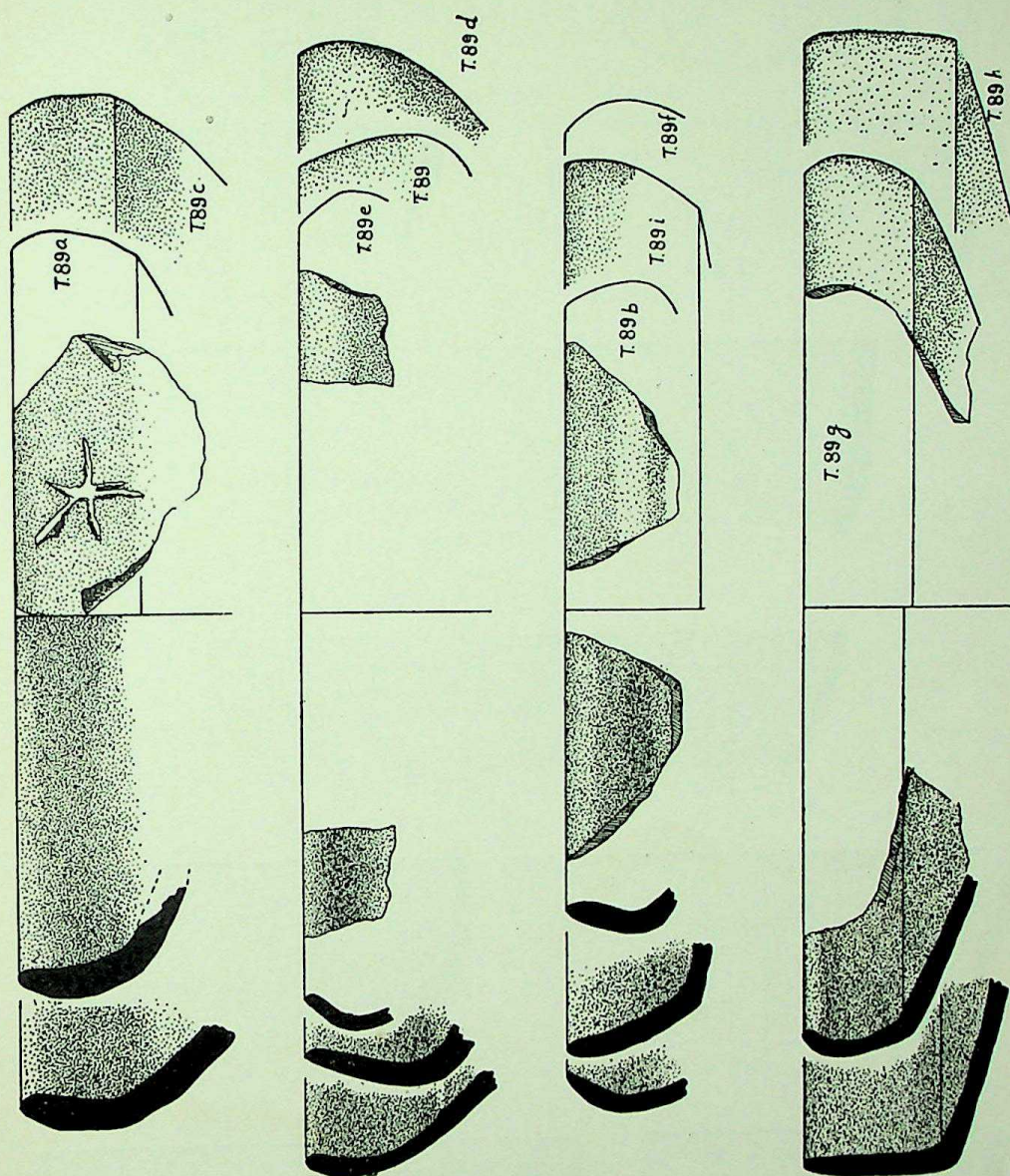


Fig. 63 Types 89—89j, [T.89] : Black-and-Red ware—Dishes. Period IV. (See p. 141)

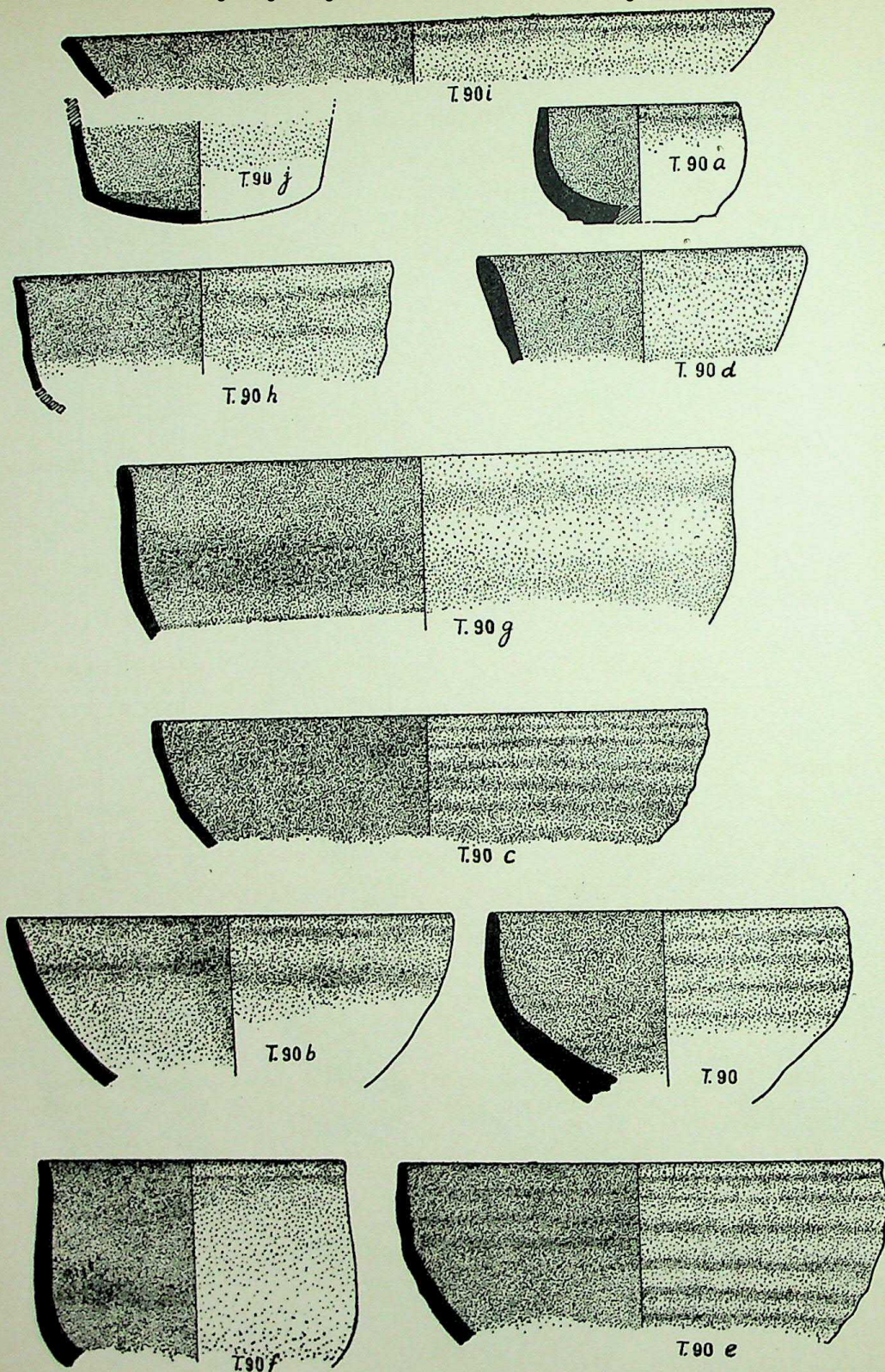


Fig. 64 Types 90-90j [1/2] : Black-and-Red—Rimless Bowls. Period IV. (See pp. 141-42)

POTTERY OF PERIOD IV

BLACK-AND-RED

(Figs. 62, 63, 64, 65).

Dishes (Fig. 63)

- T.89 Fragment of a dish, somewhat convex at the base, tapering edges, black slipped and burnished inside, reddish at the outer bottom, core porous. No. 3523, MHSR, II. ii. A (14).
- T.89a Similar to above but with convex sides and rounded edge. No. 3545, MHSR, II. ii. A (15).
- T.89b Similar to *Type 89* but with straight and thinner sides. No. 3388, MHSR, II. ii. A (17).
- T.89c Similar to *Type 89a* but with thick sides, angular at the base, rounded edge, extremely gritty core. No. 3507, MHSR, II. ii. A (14).
- T.89d Similar to *Type 89a* but with somewhat flaring sides, rounded edge, porous core and fine striation marks. No. 20614, NVT, III. iv. D (2).
- T.89e Similar to *Type 89* but with sides having a uniform thinness, rounded edge. No. 2842, MHSR, II. ii. A (17).
- T.89f Similar to *Type 89d* but with inturned edges, porous core, brownish outside and blotchy inside. No. 3521, MHSR, II. ii. A (18).
- T.89g Similar to *Type 89e* but with rounded inturned edge and base surfaces very well burnished. No. 3521a, MHSR, II. ii. A (18).
- T.89h Fragment of a dish with sides at an obtuse angle to the base, rounded edge, well burnished sides and core porous. No. 3152, MHSR, II. ii. A (14).
- T.89i Similar to *Type 89h* but having inturned, tapering edge, surfaces porous and rough, core gritty and porous, No. 3151, MHSR, II. ii. A (14).

Bowls (Fig. 64)

- T.90 Fragment of a rimless bowl with straight sides, bulging at the base, tapering edge, probably discoid base, surfaces slipped and burnished black inside, red at the bottom outside, core porous. No. 3136, MHSR, II. ii. A (13).
- T.90a Similar to above but with a discoid base encircled by a groove, surfaces coarse and gritty, core porous. No. 12862, NVT, II. iii. B (3).
- T.90b Fragment of a rimless bowl with convex flaring sides, tapering edge, unburnished surfaces, gritty core, inside black. No. 3486, MHSR, II. ii. A (14).
- T.90c Similar to above but with thin sides and well-burnished surfaces, porous core. No. 3568, MHSR, II. ii. A (19).
- T.90d Fragment of a rimless bowl similar to *Type 90b*, with flaring sides. No. 3407, MHSR, II. ii. A (19).
- T.90e Fragment of a hemispherical bowl with thin sides and well-burnished surfaces, the outer surface having corrugations, rounded edge, core porous. No. 20611b, MHSR, II. ii. A (19).
- T.90f Fragment of a rimless bowl with high straight walls, convex at the bottom, slightly out-going edge, surfaces porous and grey, core porous and gritty. No. 3349, MHSR, II. ii. A (17).
- T.90g Fragment of a rimless bowl with bulging sides and out-turned tapering edge, surfaces porous, core porous and gritty, fine striation marks obliterated by two vertical and one oblique scratched lines. No. 3349a, MHSR, II. ii. A (17).
- T.90h Similar to *Type 90e* but with straight sides. No. 20708, NVT, III. iv. D (2).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- T.90i Fragment of a bowl with out-turned rounded edge with a groove below it, surfaces well burnished, core porous. No. 20708a, MHSR. II. A (13).
- T.90j Fragment of a rimless bowl angular at the base, surfaces very well burnished, core compact and black. No. 2886, MHSR. V. i. A (8).

(Fig. 65)

- T.90k Fragment of a spherical bowl with two ridges on the outer surface, externally grooved edge, inner surface black slipped and burnished, outer red burnished at the base, core porous and black. (Thickness: 5 mms.). No. 4518, NVT. III. v. B (4).
- T.90l Half of a rimless bowl with flat base, flaring and tapering sides, inner surface black-burnished, outer red-burnished at the bottom. No. X1, NVT. I. i. Pit No. 2.
- T.90m Fragment of a small bowl with flaring sides, out-going rounded lip, inner surface black slipped and burnished, outer partially black and partially red. No. 1729, NVT. I. i. E (2).
- T.90n Fragment of a deep bowl with slightly bulging sides getting thicker towards the base, the bowl has a slightly out-turned rounded lip and an angular turn at the base; core black and porous. No. 14211, NVT. II. iii. D (9).
- T.90o Fragment of a bowl with convex flaring sides, having a ridge on the outer surface towards the base, surfaces black slipped and burnished, (thickness : 4 mms.) No. 2179, NVT. I. i. G (2).
- T.90p Fragment of a rimless bowl with thin, straight and flaring sides, an angular turn near the base, surfaces slipped and burnished, core porous and black. (thickness: 3 mm). No. 2015, NVT. I. i. F (2).
- T.90q Fragment, carinated bowl, rounded edge, inner surface slightly burnished. No. 1097, NVT. I. i. B (2).

Basin (Fig. 62)

- T.x Fragment of a basin with convex sides, rounded bottom, beaded rim, shallow broad groove on the inner surface near the mouth, a pair of grooves on the outer surface, surfaces very well burnished, core compact and black. No. 20612, NVT. III. iv. D (2).

BASES (Fig. 66)

Several base-pieces of the Black-and-Red ware were found. As the shape of the complete vessels cannot be determined from these, they are treated separately here.

Cut Bases :

These show that the base of the vessel was cut off from the wheel by means of a string. Subsequently, the string marks were erased by burnishing, which made the base smooth.

No. 3475, MHSR. II. ii. A (14), [Fig. 66 (A)—a.]

No. 3176, MHSR. II. ii. A (14), [Fig. 66 (A)—b.]

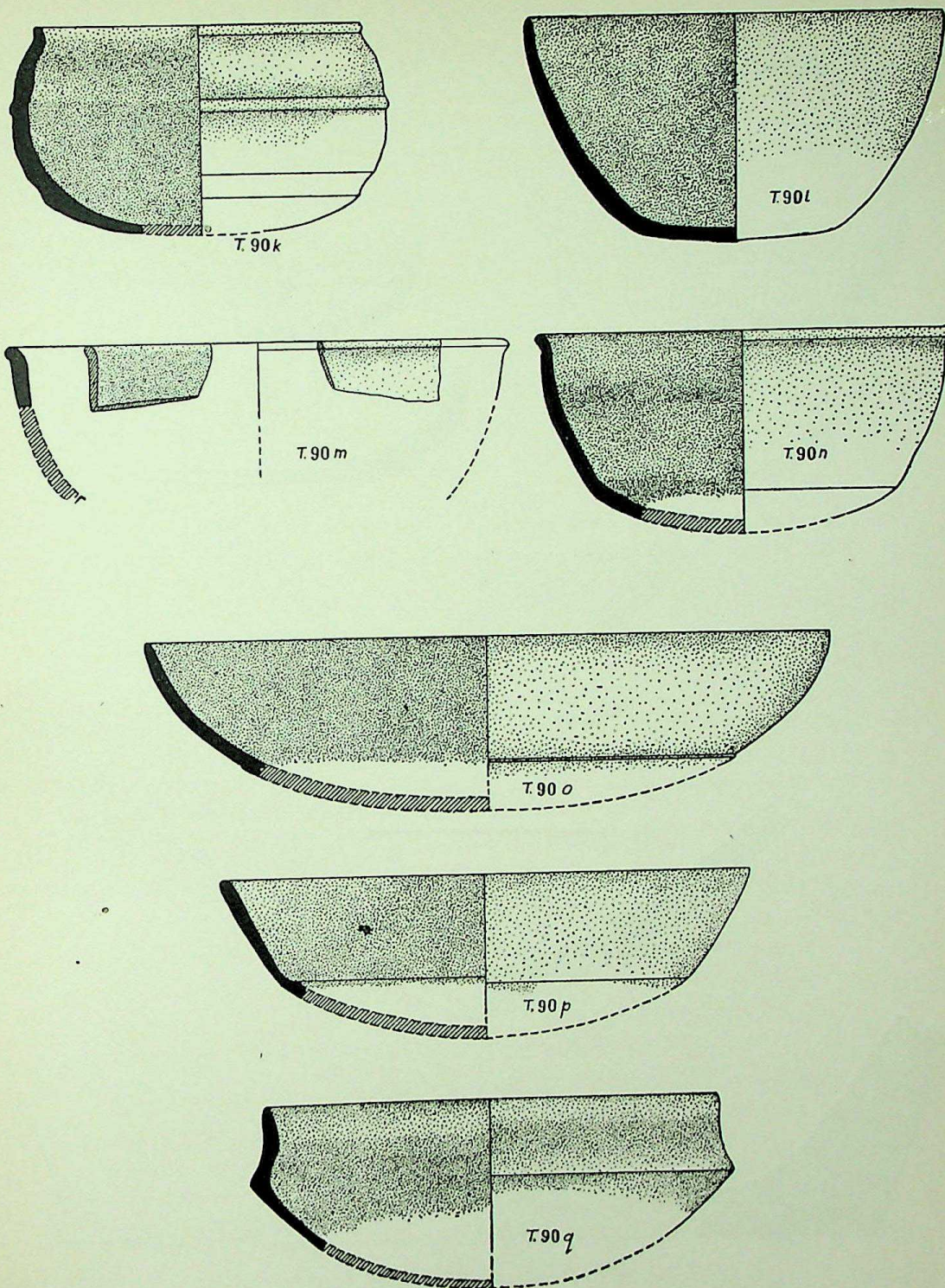


Fig. 65 Types 90k-90q [1]: Black-and-Red Ware: Rimless Bowls. Period IV. (See p. 142)

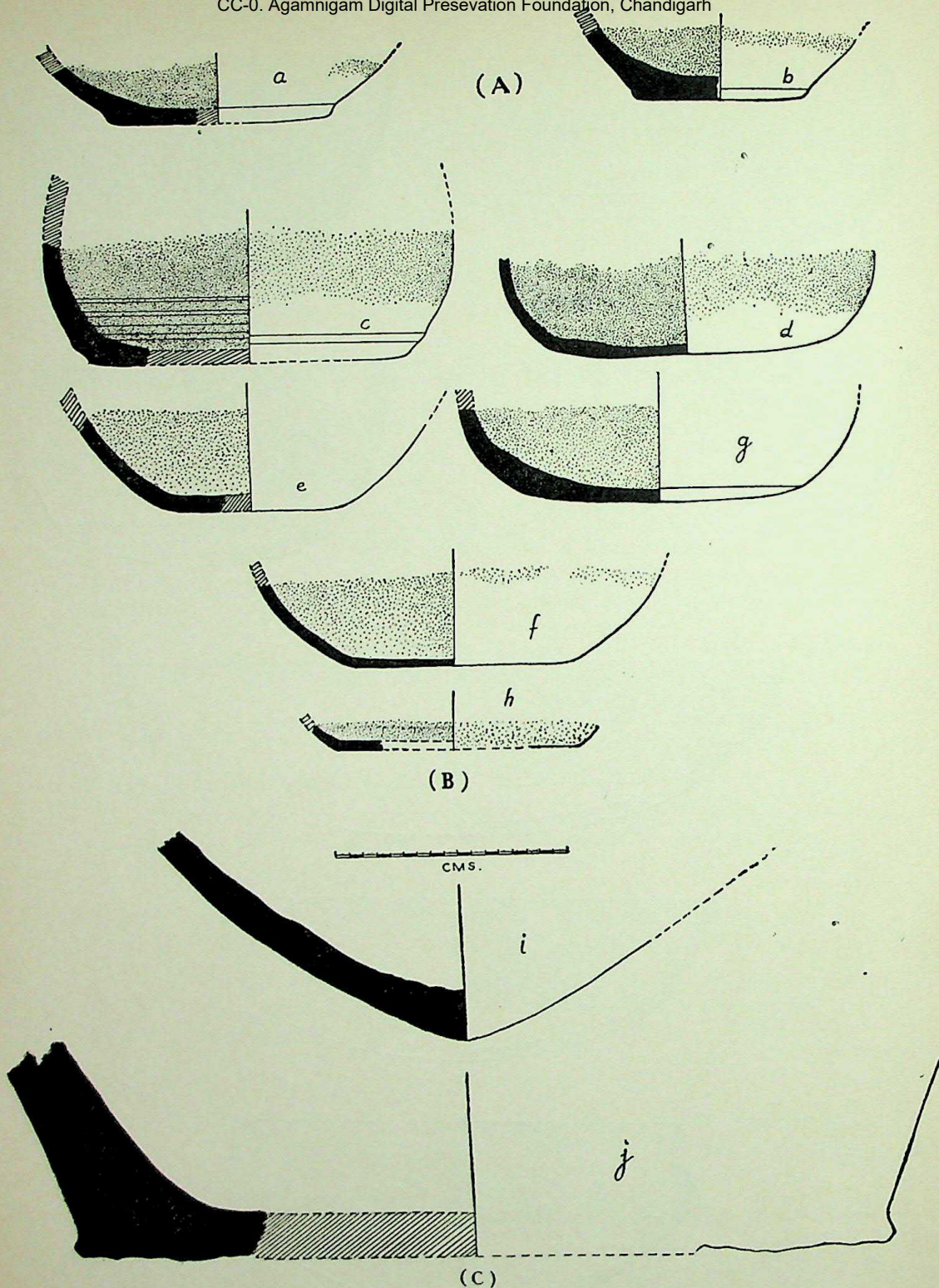


Fig. 66 Bases [$\frac{1}{2}$]
 (A-B)—a-h : Period IV (Black-and-Red Ware)
 (C)—i-j: Period V (Red Ware). (See pp. 142, 146, 149.)

POTTERY OF PERIOD V

Flattened bases :

These seem to be due to the pressure applied to the original round base. This caused folds near the base and the thickening of the curvature.

No. 3309, MHSR. II. ii. A (16) [Fig. 66 (A)—c.]

No. 489a, MHSR. II. ii. B (16) [Fig. 66 (A)—d.]

POTTERY OF PERIOD V

The pottery of this period is characterised by the increase in total bulk and the introduction of new shapes in coarse wares.

The *black-and-red* shows a fall of nearly three per cent (11.4%) over that of Period IV. In spite of this, however, the shapes do not show any remarkable change. Types 89e, 89g, and 89f among dishes, and 90a, 90b, 90f and 90h among bowls recur in this phase as well. Bowls and dishes predominate during this period and show close typological affinities with those found at Nasik, Kolhapur and Nevasa. The core does not show any improvement in baking, and the clay shows mixture with silica and straw.

A remarkable shape in the bowls is the lipped bowl (T. 92m) which shows an intentional pinching to facilitate pouring. The diameters of the bowl range between 70 and 200 mms. indicating that these were used for various purposes, viz. as depositing receptacles and as small drinking cups. It is to be noted that this ware shows shapes having wide, open mouths. High-necked vessels with a small opening are conspicuous by their absence.

The makers of this ware seem to have developed skill in executing very thin fabrics. The minimum thickness available is 2 mms. It is to be noted that most of the shapes get thinner towards the base.

Tan Ware is represented by a few sherds, as in Period III.

This ware is remarkable for its finish and burnished surfaces. It bears a thick tan slip. The typical egg-shell thin tan ware of Nasik is absent here. The Maheshwar ware is usually thick with the thickness never less than 4 mms. The clay is mixed with minute quartz particles. The core, however, is compact and brown and shows an uniform firing unlike that in the *black-and-red*. The shapes are more or less identical with those of the *black-and-red*. Moreover, both these wares are identical in having absolutely no decorations.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

The *Burnished Red Ware* also shows an increase of a little over 2% as compared with its bulk in Period IV. Though the core and clay used do not show any change, some new shapes are introduced.

That this ware was in use more than the rest, save the coarse red, is shown not only by its quantity but by the fact that in several cases the original slipped and burnished surfaces have become soiled due to use.

The ware is generally ill-baked, due probably to its large-scale production on account of requirements in daily use. The basin was a favourite shape, and dishes occur more than bowls. Some of these vessels were used in cooking as is evidenced by T. 105 which shows that the base was blackened due to soot and fire.

A remarkable variety of rims is available in this ware. Besides this, the high and short-necked vessels also abound. The profusion of lids indicates the use of containers of various sizes. Unlike the black-and-red and the tan ware, this ware shows some attempts at decoration. These are, however, limited to shallow grooves and bands.

The *Coarse Red Ware* maintains, more or less, the same ratio to other wares. It is, however, characterised by a wide range of shapes which are strictly utilitarian. Whether it be a storage jar or a small *panti*, the firing is bad, the clay impure and the execution mediocre.

In spite of this, however, the potter seems to have tried his hand, though on a small scale, at imitating some shapes from finer wares, as for instance, the rimless bowls and dishes.

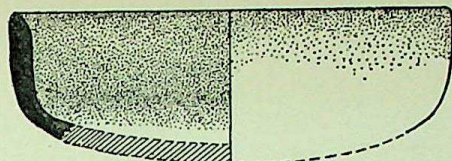
Like the slipped and burnished red, the coarse red pottery was also strictly for every day use. Not bothered about its finish, it could be produced on a large scale. Moreover, it required no specialised or purified raw material.

Some of the shapes are remarkable for their execution. T. 112 (ring-stand), T. 108 (decagonal vessel) and T. 109 (biconical pot) show the skill of the potter. T. 108 has perfect angles. The biconical pot shows traces of a spout and perforations useful to keep the vessel hanging.

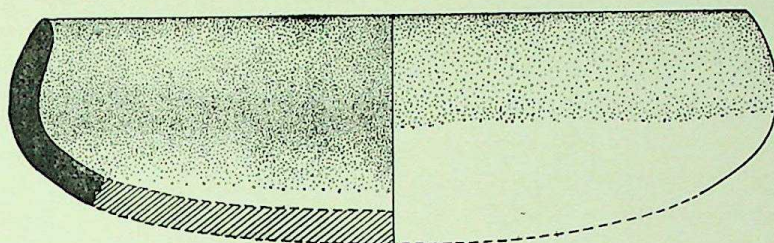
BLACK-AND-RED
(Figs. 67, 68, 69, 70)

Dishes (Fig. 67)

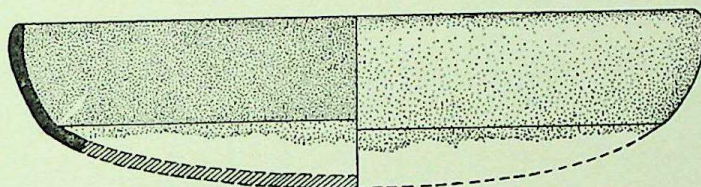
- T. 91 Fragment of a dish with straight sides, plano-convex edge, surfaces well-burnished, porous core. No. 3055, MHSR. II. ii. A (11).



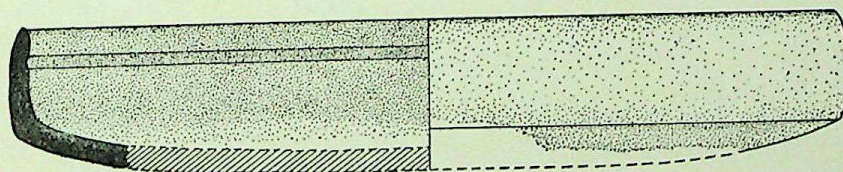
7.91



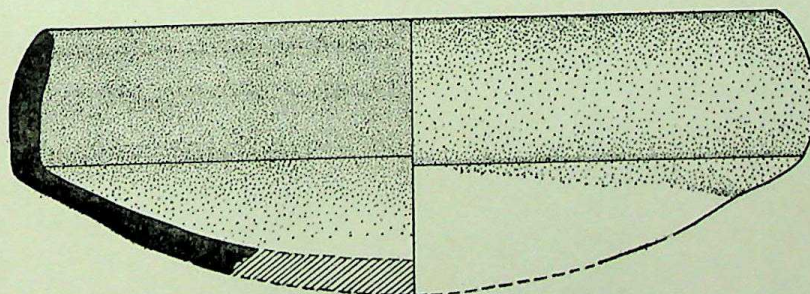
7.91a



7.91b



7.91c



7.91d

Fig. 67 Types 91-91d [1]
Black-and-Red Ware: Dishes. Period V. (See pp. 144-45)

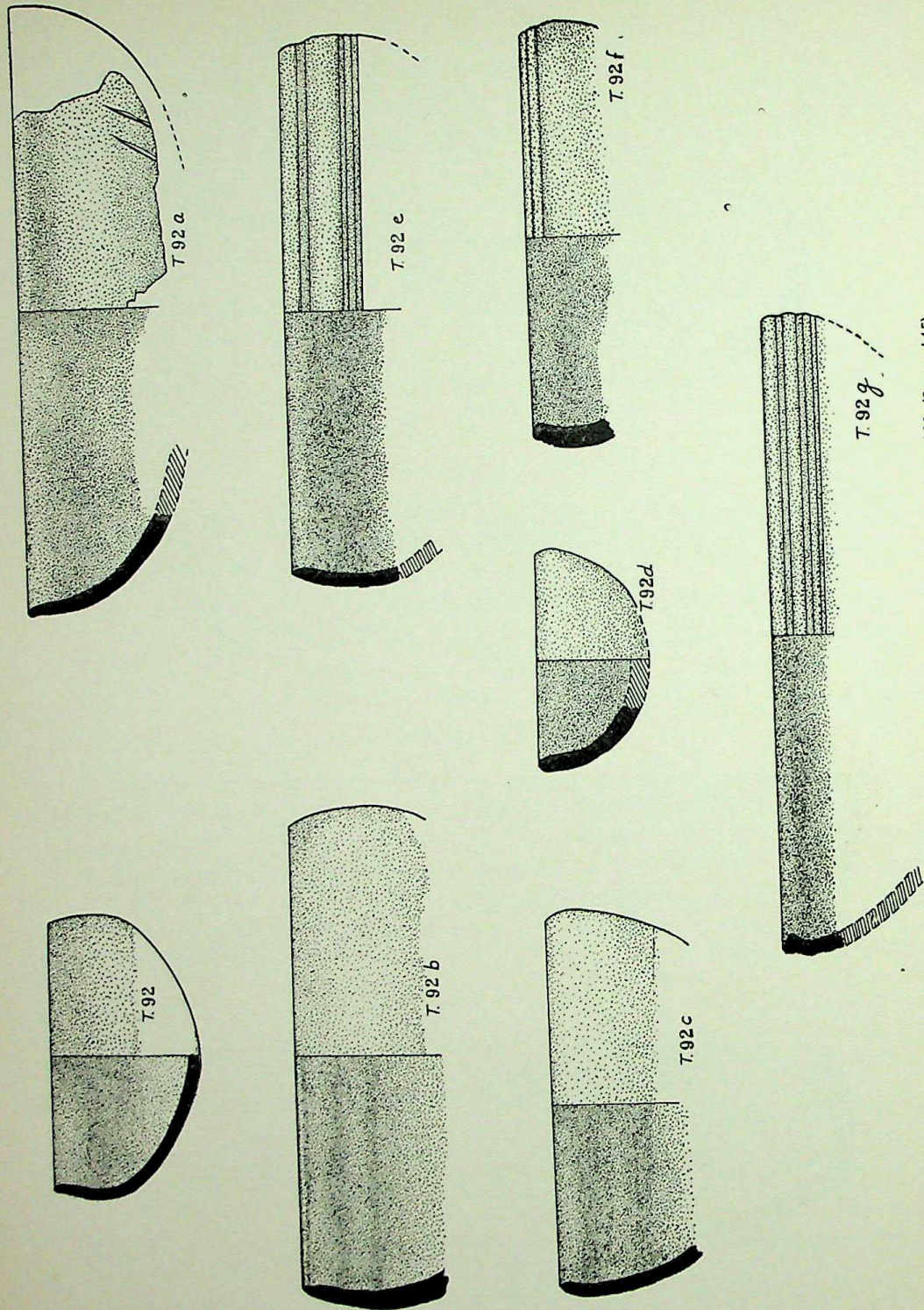


Fig. 68 Types 92-92g [1]: Black-and-Red Ware: Hemispherical Bowls, Period V. (See p. 145)

POTTERY OF PERIOD V

- T.91a Fragment of a dish with thick, convex sides, tapering rounded edge, burnished surfaces, core porous. No. 21003, MHSR. II. ii. A (14).
- T.91b Fragment of a dish with inturned rounded edge, convex, flaring, and thin sides, very well burnished surfaces. No. 2542, MHSR. V. i. A (6).
- T.91c Fragment of a dish with convex sides, rounded edge, angular at the base, surfaces slipped and burnished but porous due to straw used. No. 3020, MHSR. V. i. A (10).
- T.91d Similar to *Type 91c* but having thick sides, rounded edge, slightly angular at the sagging base, core porous. No. 21001, MHSR. II. ii. A (14).

*Bowls (Fig. 68)**Hemispherical Bowls*

- T.92 Almost a complete specimen of a rimless bowl with slightly convex sides, shallow blunted conical base, thin sides, rounded edge, very well burnished surfaces, compact and black core. No. 162, NVT. I. i. G (2).
- T.92a Fragment of a rimless bowl with hemispherical shape, surfaces slipped and burnished, the outer bottom having two parallel incised scratches, sides tapering, rounded edge, core porous. No. 4235, NVT. I. i. G (3).
- T.92b Similar to above but with thicker sides. No. 20208, MHSR. II. ii. V (8).
- T.92c Similar to *Type 92a*, but with slightly inturned and rounded edge, sides with even thickness. No. 2782, MHSR. V. i. A (7).
- T.92d Similar to *Type 92c* but smaller in shape and with coarse surfaces. No. 3051, MHSR. II. ii. A (11).
- T.92e Similar to *Type 92a* but having two shallow grooves on the outer surface, surfaces burnished. No. 673, NVT. I. i. B (5).
- T.92f Similar to above but with coarse, porous surfaces, two thin grooves near the squared edge. No. 3050, MHSR. II. ii. A (11).
- T.92g Similar to *Type 92a* but with bevelled edge. No. 25170, MHSR. V. i. A (6).

(Fig. 69).

- T.92h Similar to *Type 92c* but with two prominent bands on the outer side and rounded edge. No. 20224, MHSR. II. ii. V (8).
- T.92i Similar to *Type 92h* but having a series of ribs on the outer surface, surfaces porous but with a thick greyish-black slip, core porous. No. 20225, MHSR. II. ii. V (8).

Bowl with Straight Sides

- T.92j Fragment of a straight, thin-sided bowl with rounded edge, surfaces coarse black, core black and porous. No. 2594, MHSR. V. i. B (6).

Bowls with Flaring Sides

- T.92k Fragment of a rimless bowl with slightly flaring sides getting thinner towards the edge, surfaces well burnished, core porous. No. 12581, MHSR. V. i. B (6).
- T.92l Similar to above but with inturned rounded edge, inner surface black, outer red, both the surfaces having straw-marks, core porous. No. 20203, MHSR. II. ii. V (5).

Lipped Bowl

- T.92m Half of a shallow rimless bowl with a projecting lip, thick at the base only, surfaces porous and having numerous straw marks, core porous. No. 12045 NVT. I. ii. Surface.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Basin (Fig. 70)

- T.93 Fragment of a wide-mouthed vessel resembling a basin, having bulging sides, out-beaded rim with a groove, surfaces well burnished, core compact grey. No. 2566, MHSR. I. i. A (6).

High-Necked Vessel

- T.94 Fragment of the rim and neck of a high-necked small vessel with a somewhat flat, out-beaded rim, grey-black slipped and burnished surfaces, a small band in relief below the rim on the outer side, core porous. No. 3049, MHSR. II. ii. A (11).

Bases [Fig. 66 (B)]

- [Fig. 66 (B)-e]. No. 20255, MHSR. II. ii. V (9).
Fragmentary piece of a flattish base rounded at the corner, red outside, surfaces slipped and burnished but porous, so also the core.
- [Fig. 66 (B)-f]. No. 2561, MHSR. V. i. A (B).
Similar to above but angular at the base which is very thin (2 mms.), surfaces very well burnished and lustrous, core porous.
- [Fig. 66 (B)-g]. No. 20222, MHSR. II. ii. V (8).
Similar to above but thick-sided, surfaces porous, traces of burnishing only on the inner surface.
- [Fig. 66 (B)-h]. No. 2575, MHSR. V. i. H (8).
Fragmentary base-piece with a slight ridge at the turning at the base, black lustrous surfaces having a thin jet-black slip, core compact and black.

TAN WARE

(Fig 70)

Dish

- T.95 Rim-fragment of a dish with surfaces smooth and very well burnished, compact brown core with quartz mixed in clay, convex sides, rounded edge. No. 2402, MHSR. V. i. A (3).

Bowl

- T.96 Fragment of a rimless bowl with thin sides tapering towards the edge, surfaces tan slipped and burnished, core compact brown. No. 2733, MHSR. V. i. A (6).

High-Necked Vessel

- T.97 Fragment of the neck of a high-necked vessel, with flaring rim with a flat top, the neck having three shallow grooves on the outer surface, both the surfaces smooth, tan and burnished, core as in the above. No. 2943, MHSR. II. ii. A (11).

BURNISHED AND SLIPPED RED WARE

(Figs. 71, 72, 73, 74, 75.)

Lids [Fig. 71]

- T.98 Fragment of a lid with domical roof, the lip meant to fit in the mouth of a container, and a projection for lifting the lid up, surfaces porous, traces of a reddish wash, core porous. No. 2952, MHSR. II. ii. A (11).
- T.98a Similar to above but with a ringed lip. No. 2957, MHSR. II. ii. A (11).
- T.98b Similar to *Type 98* above, but without the projection and the surfaces covered with a red slip, outer surface burnished. No. 1827, MHSR. V. i. B (3).

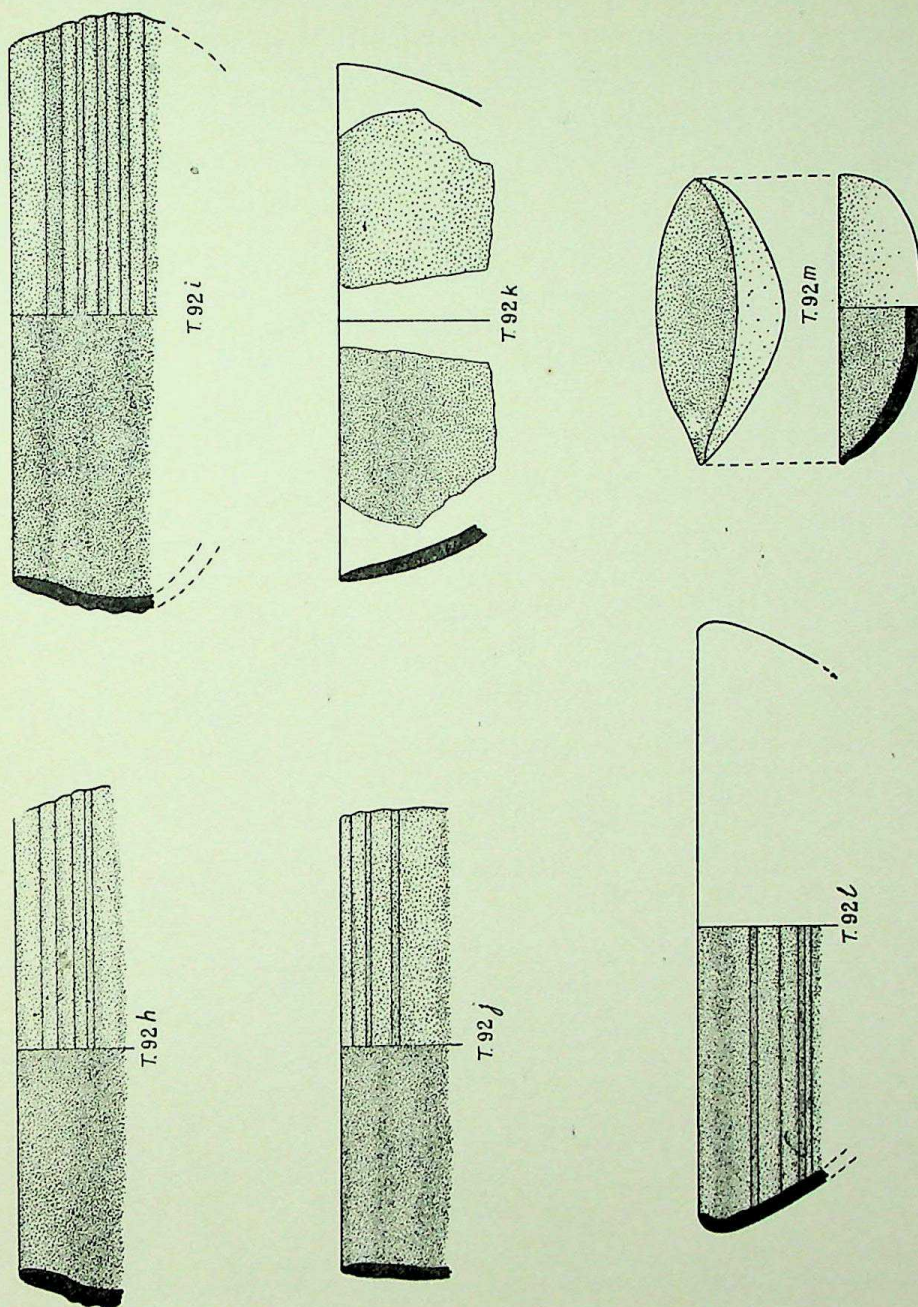


Fig. 69 Types 92h-92m (†)
Black-and-Red Ware (T. 92h-92i, Hemispherical Bowls; 92j, Bowl with straight sides;
92k-92l, Bowl with flaring sides; 92m, Lipped Bowl). Period V. (See p. 145.)

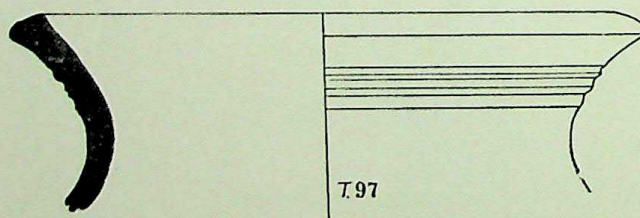
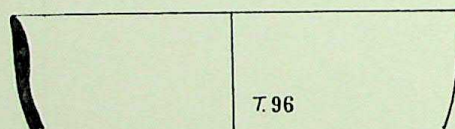
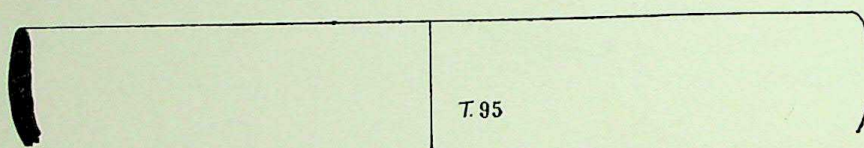
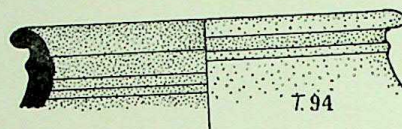
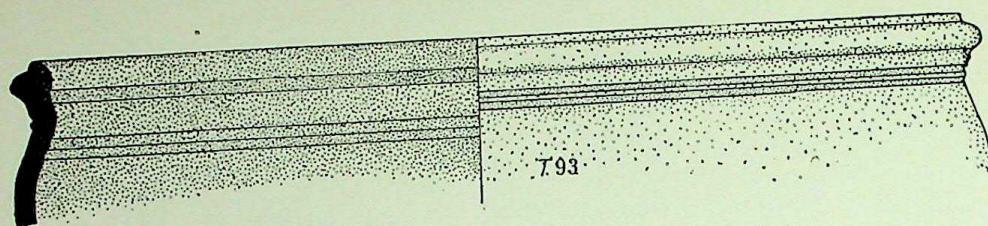
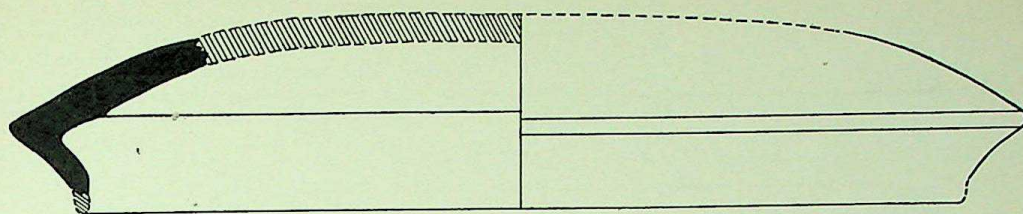
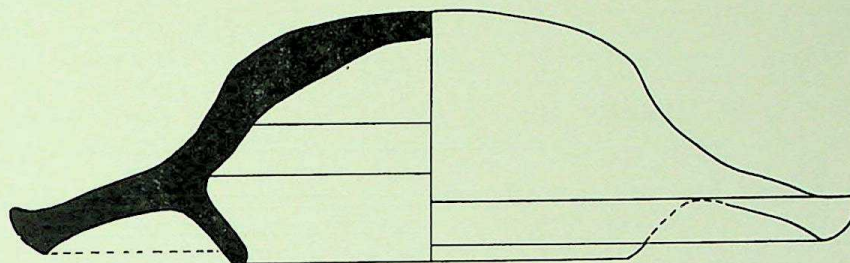


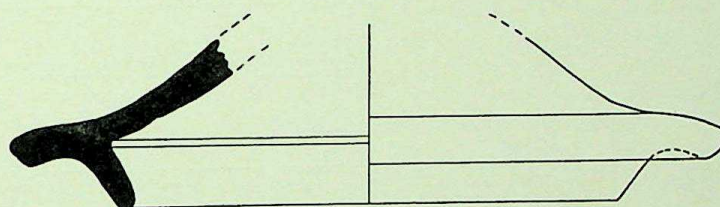
Fig. 70 Types 93-97 [1]
 Black-and-Red Ware (T. 93, Basin; T. 94, High-necked Vessel)
 Tan Ware (T. 95, Dish; T. 96, Bowl ; T. 97, High-necked Vessel). Period V. (See p. 146)



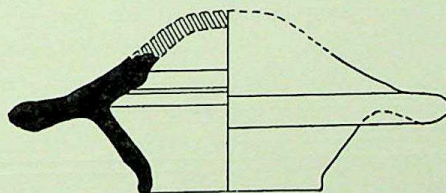
T.98 b



T.98 c



T.98



T.98 a



T.98 d

Fig. 71 Types 98-98d [1]
Burnished Red-slipped ware: Lids. Period V. (See pp. 146-47)

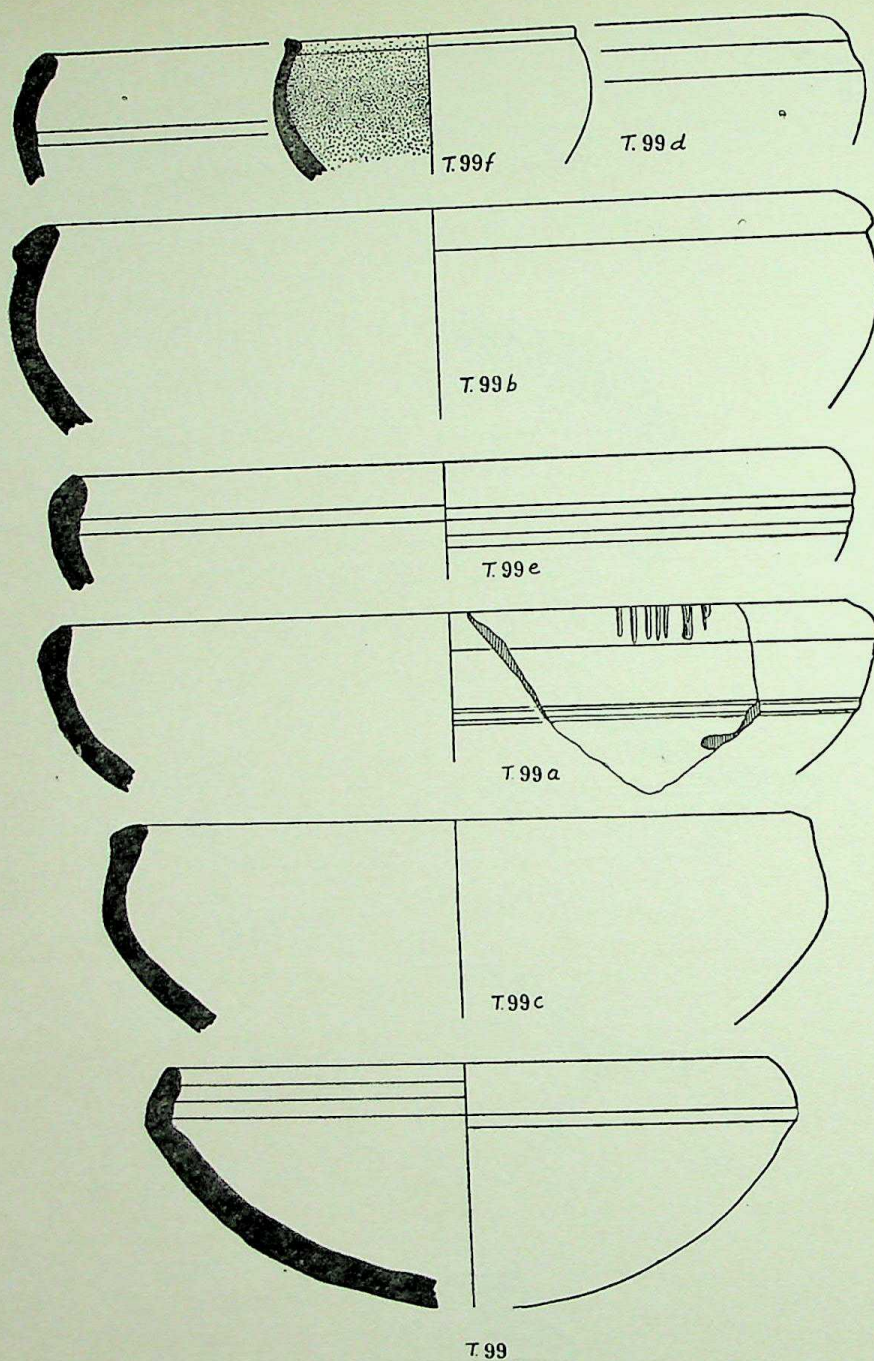


Fig. 72 Types 99-99f [$\frac{1}{2}$]
Burnished Red-slipped Ware : Bowls. Period V. (See p. 147)

POTTERY OF PERIOD V

- T.98c Similar to *Type 98* but with the convex top rising above the rest of the surface, a slight ridge at the edge, blunted lip, inner surface burnished, outer having a red wash. No. 978, MHSR. II. ii. A (10).

The smallest size of this type measures 6.5 cms. in diameter and 3 cms. in height. No. 284, MHSR. II. ii. B (9).

- T.98d A complete tiny lid with a cut-knob serving as a hold to lift up, surfaces now coarse. No. 280, MHSR. V. i. A (2).

Bowls (Fig. 72)

- T.99 Fragment of a shallow, rimless bowl with short inturned sides, sagging base, thicker at the bottom, surfaces with a red wash, core gritty. No. 1912, MHSR. V. i. B (3).
- T.99a Fragment of a deep rimless bowl with surfaces red-slipped and burnished, two shallow grooves on the outer surface and a series of vertical incised lines on the edge. No. 2970, MHSR. II. ii. A (11).
- T.99b Similar to *Type 99a* but having a slightly undercut edge, bulging sides, burnished only on the edge, rest of the surface red-washed, core gritty. No. 2949, MHSR. II. ii. A (11).
- T.99c Similar to *Type 99b* but with bevelled edge, burnished only on the outer edge-portion, core showing mixture of grass. No. 2896, MHSR. II. ii. A (10).
- T.99d Fragment of a rimless bowl with slightly inturned, rounded, thickened edge, surfaces well burnished, core compact and brown. No. 3020, MHSR. II. ii. A (11).
- T.99e Similar to *Type 99d* but with thick sides, bulbous edge, surfaces well burnished, core compact and red. No. 881, MHSR. V. i. A (3).
- T.99f Fragment of a small hemispherical bowl with the edge flattened and beaded on both sides, thin sides, inner surface coarse black and the outer one red-slipped and burnished, core porous. No. 13045, NVT. II. iii. B (4).

Basins (Fig. 73)

- T.100 One-fourth fragment of a somewhat deep basin with a red wash all over, thick sides, rounded edge and a ridge on the outer surface, core gritty and black flanked on either side by red. No. 3077, MHSR. II. ii. A (12).
- T.100a Similar to above but with less thick sides and with a prominent ridge. No. 2975, MHSR. II. ii. A (11).
- T.100b Fragment of a basin similar to *Type 100* in shape but with the edge inturned and rounded, and with a prominent ridge; the inner surface having a red slip only at the edge and the base having a dark chocolate slip. No. 2983, MHSR. II. ii. A (11).
- T.100c Fragment of a shallow, thick-sided basin with red-slipped and burnished inner surface, outer surface coarse, the edge protruding, core gritty. No. 2900, MHSR. II. ii. A (10).

Dishes

- T.101 Fragment of a dish with convex sides, rounded base and edge, surfaces having a thick orange-red slip, core porous and gritty, clay with mixture of silica, surfaces showing grass marks. No. 1456, MHSR. V. i. A (3).
- T.101a Fragment of a dish, angular at the base, rounded edge, surfaces red-slipped and burnished, core red and porous. No. 2807, MHSR. II. ii. B (8).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

T.101b Similar to above but having a slightly ridged carination, thicker walls, sagging base, rounded edge, surfaces with a thick red slip, core porous. No. 2804, MHSR. II. ii. B (8).

T.101c Fragmentary shallow dish-piece with flat edge, inner surface with bright red slip, core porous, outer surface unburnished at the base. No. 2893, MHSR. II. ii. A (10).

Carinated Vessel

T.102 Fragment of a vessel with straight sides having carination at the shoulder, two bands in relief at the neck, outer surface red-slipped, inner coarse red, core porous and gritty. No. 2989, MHSR. II. ii. A (11).

High-Necked Vessels (Fig. 74)

T.103 A complete, small, high necked Kūjā-like pot with a flat base and the outer portion up to the belly having a red wash. No. 1005, MHSR. II. ii. B (11).

T.103a Fragment of the high neck and rim of a vessel with probably a globular body, beaded rim, surfaces with a red wash, core porous. No. 2817, MHSR. II. ii. C (8).

T.103b Similar to above but with the rim convex, surfaces bright red-slipped. No. 2831, MHSR. II. ii. B (9).

T.103c Fragmentary projected rim of a vessel with high neck and red-slipped surfaces, core porous. No. 2941, MHSR. II. ii. A (11).

T.103d Fragment of the high neck of a vessel with broad out-turned rim, shallow grooves on the neck, surfaces slipped and burnished red. No. 2876, MHSR. II. ii. A (10).

Short-Necked Vessels

T.104 Fragment of a vessel with constricted neck, out-turned rounded rim, surfaces with deep chocolate slip, core porous and gritty. No. 2830, MHSR. II. ii. A (9).

T.104a Similar to above but with thicker sides, surfaces having light red slip, clay mixed with siliceous matter. No. 2799, MHSR. II. ii. B (8).

T.104b Rim fragment of a vessel with constricted neck and double-beaded rim. No. 2825, MHSR. II. ii. A (9).

T.104c Fragment of an elongated globular vessel with sides getting thinner at the base, rounded, out-going rim, surfaces red slipped, core porous. No. 3010, MHSR. II. ii. A (11).

T.104d Fragment of a short-necked vessel with out-turned rounded rim, surface having a thick red slip, core porous and gritty. No. 2845, MHSR. II. B (9).

T.104e Similar to *Type 104c* but with beaded rim and the surfaces with a red wash, core porous and gritty. No. 2916 B. MHSR. II. ii. A (10).

Neckless Carinated Pot (Fig. 75)

T.105 Almost half of a *haṇḍī* without any rim, carinated at the shoulder, rounded base which is blackened on the outer side indicative of its use as a cooking pot, red-slipped and burnished at the outer shoulder. No. 21000, MHSR. II. ii. A (14).

COARSE RED WARE

(Figs. 75, 76)

Short-Necked Vessels (Fig. 75)

T.106a A tiny complete vessel with short neck, out-going rounded rim, slightly angular near the base, surfaces coarse red. No. 986, MHSR. II. A (10).

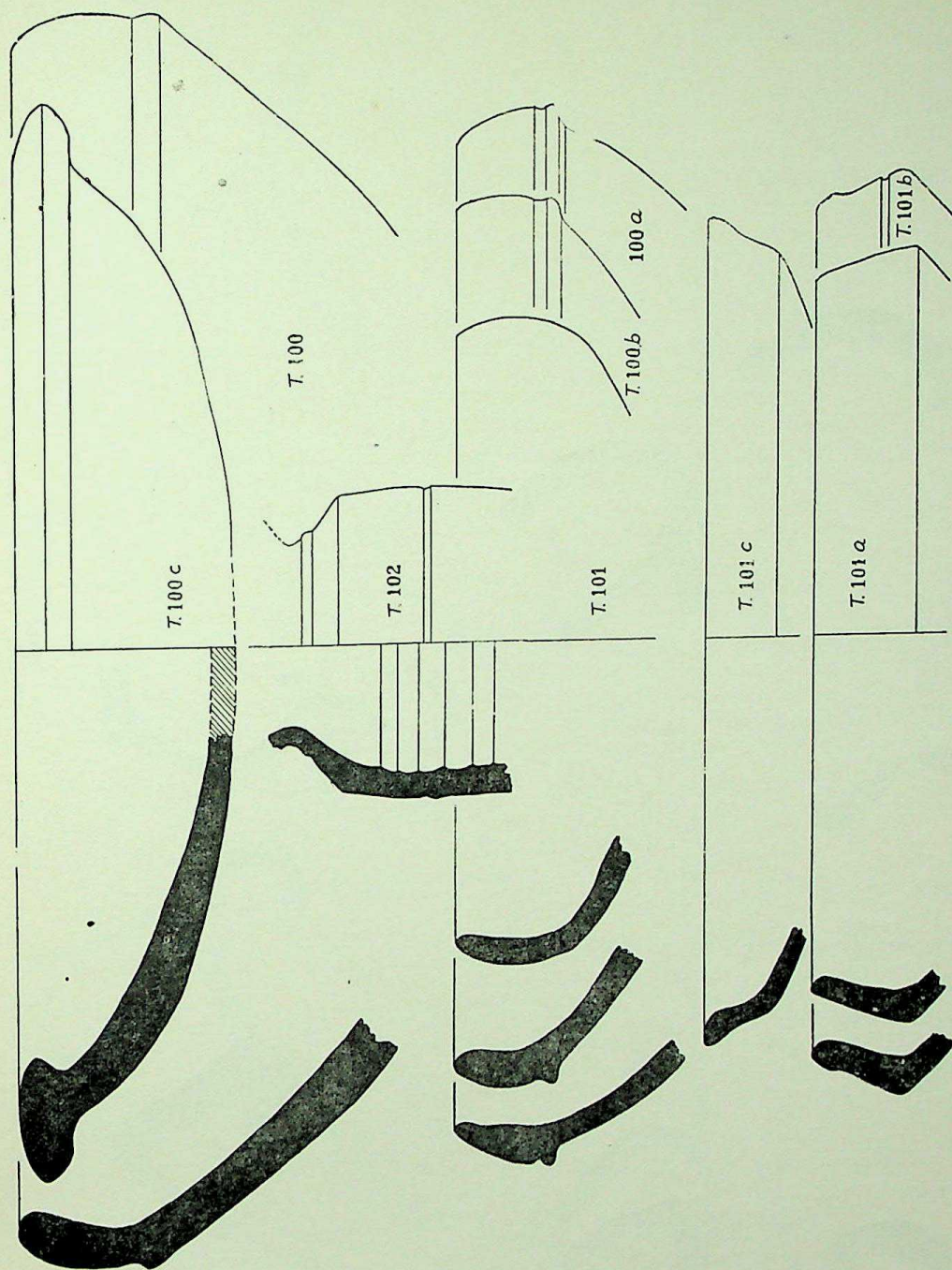


Fig. 73 Types 100-102 [1] : Burnished Red-slipped (T. 100-100c, Basins ; 101-101c, Dishes ; 102, Carinated Vessel). Period V. (See pp. 14/4)

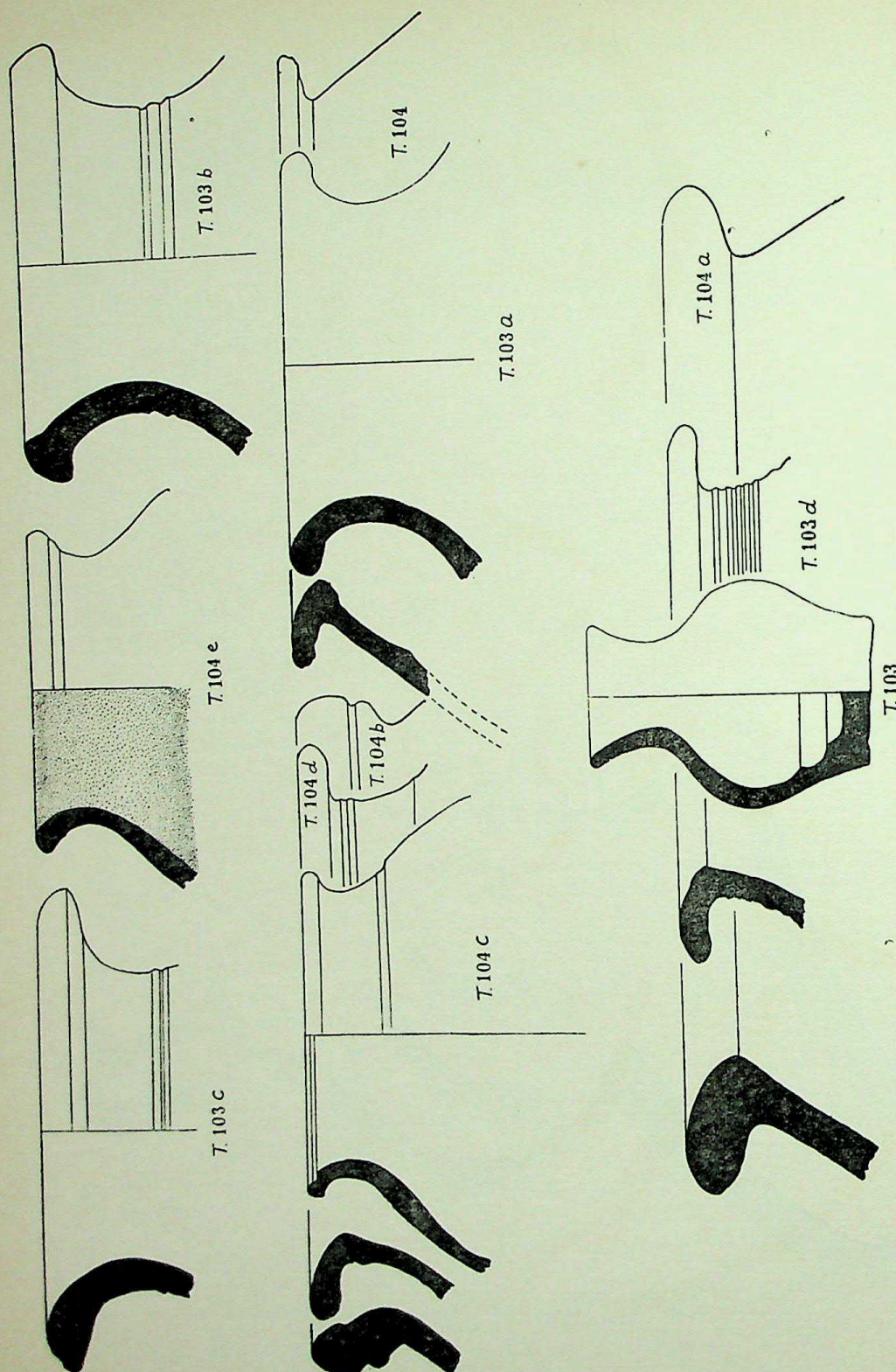


Fig. 74 Types 103-104e [$\frac{1}{2}$]
Burnished Red-slipped Ware (T. 103-103d, High-necked Vessels; T. 104-104e, Short-necked Vessels). Period V. (See p. 148)

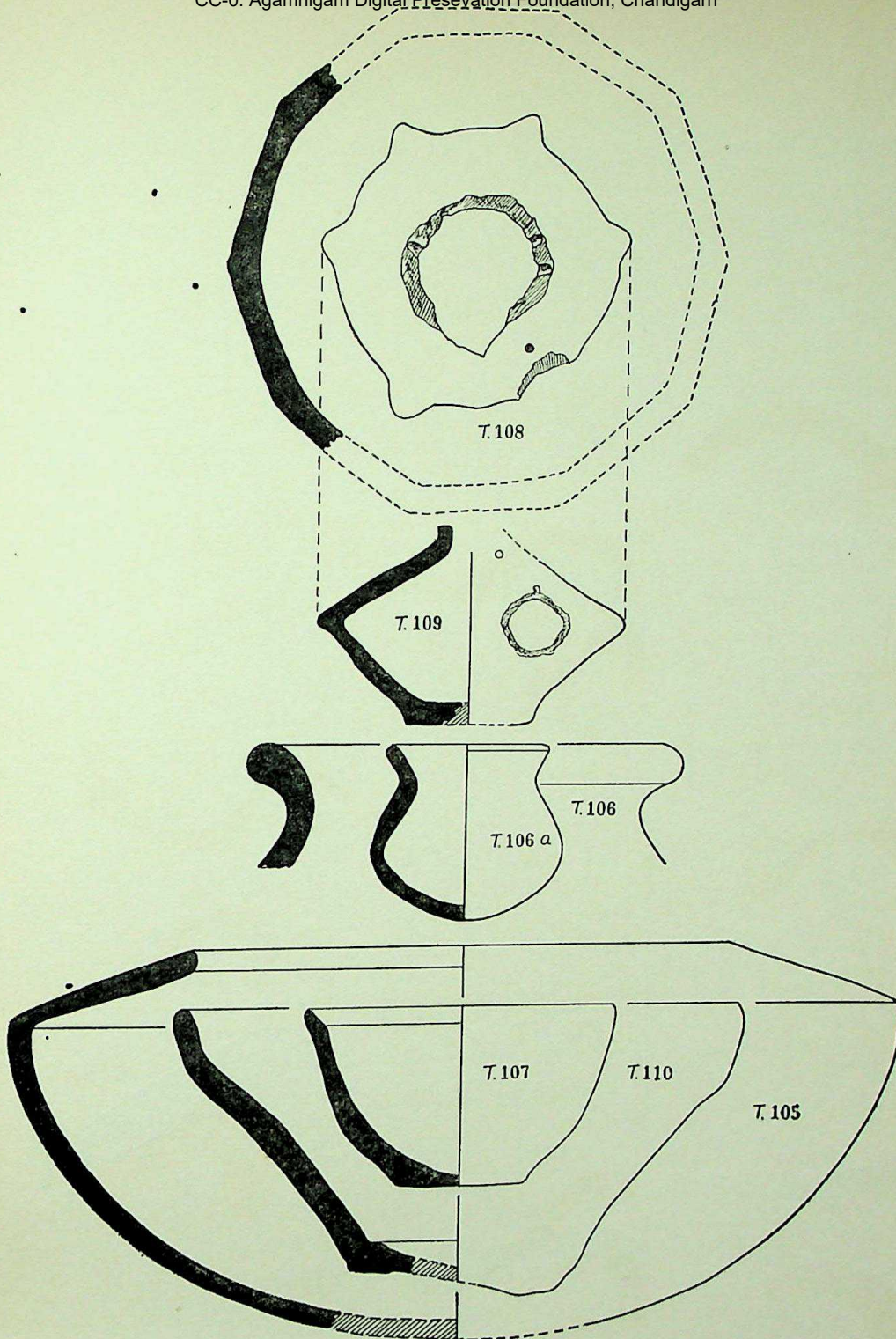


Fig. 75 Types 105-110 [1]

Burnished Red-slipped Ware (T. 105, Neckless carinated pot). Coarse Red Ware (T. 106-106a, Short-necked vessels; T. 107, Bowl; T. 108, Decagonal Vessel; T. 109, Biconical pot; T. 110, Panti). Period V. (See pp. 148-49)

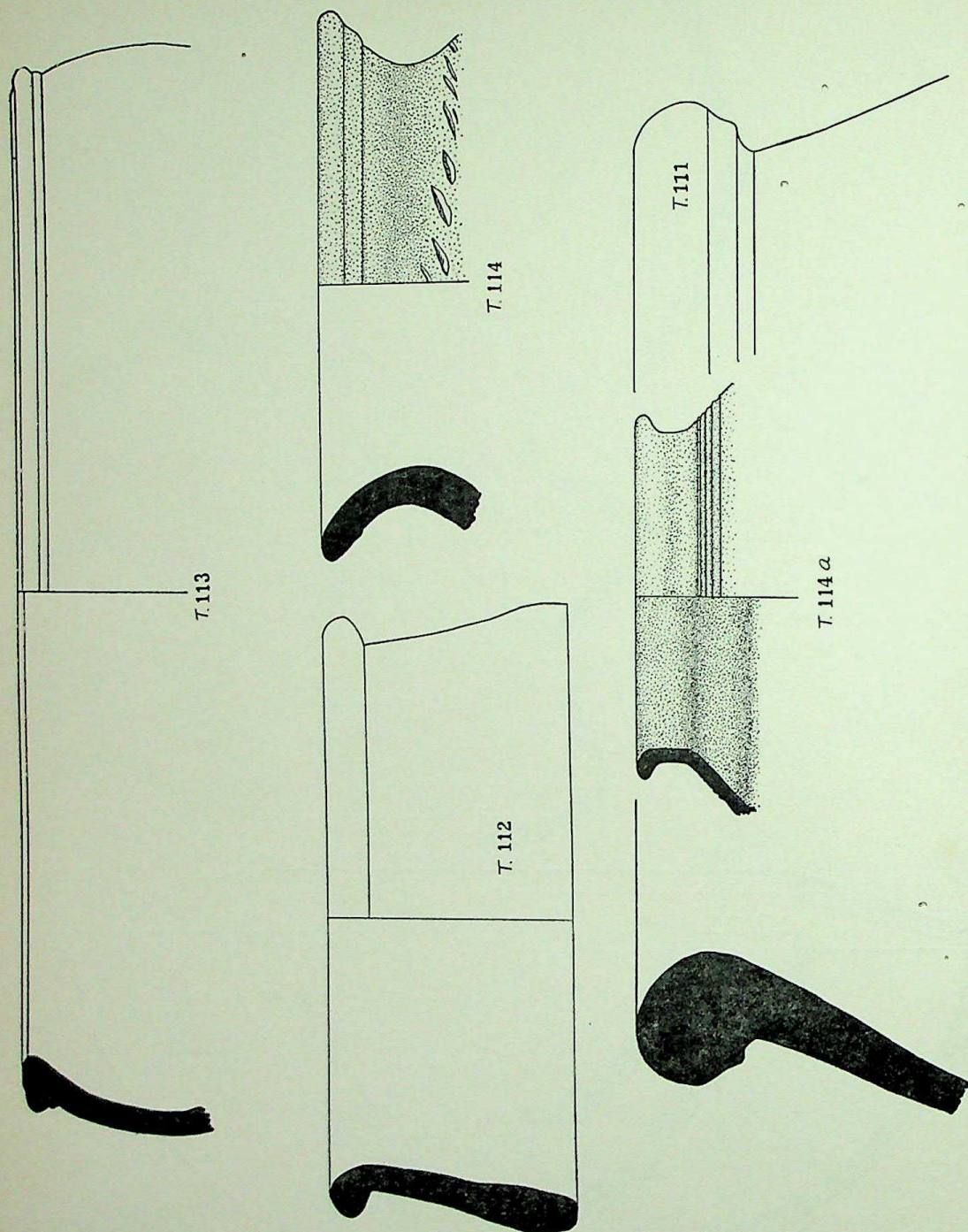


Fig. 76 Types 111-114a [3]

Coarse Red Ware (T. 111, Storage jar; T. 112, Ring-stand). Coarse Black Ware (T. 113, Kunda; T. 114-114a, Short-necked vessels). Period V. (See pp. 149-50)

POTTERY OF PERIOD V

- T.106 Fragment of a short-necked vessel with beaded rim, surfaces coarse red, clay mixed with siliceous matter. No. 399, MHSR. I. i. C (7).

Bowl

- T.107 Half of a rimless bowl with convex flaring sides, discoid base, surfaces porous, core gritty and brown. No. 3079, MHSR. II. ii. A (12).

Decagonal Vessel

- T.108 Fragment of a decagonal vessel with surfaces coarse brown, core porous. No. 1494, MHSR. II. ii. E (3).

Biconical Pot

- T.109 Almost a complete biconical vessel with discoid base, five beadings at the angle; probably it had a spout as indicated by the regular hole; at the top are remains of three perforations possibly for passing a thread through and holding the pot in a thread hanger; one perforation just above the spout; surfaces coarse brown. No. 1026, MHSR. II. ii. A (12).

Panti

- T.110 Almost a complete *panti* with thick flaring sides, discoid base having a perforation due to irregular cutting off of the base by a thread while the *panti* was on a wheel—(diameter 191 mms.) No. 979, MHSR. II. ii. A (10).

Even smaller specimens exist in this shape, almost all having a discoid base. The diameter of the smallest specimen is 55 mms. and height 31 mms.

Small *pantis* also occur in coarse black. No. 3052, MHSR. II. A (11).

Storage Jar (Fig. 76)

- T.111 Fragment of a storage jar with beaded rim, thick sides, traces of red wash on both the surfaces, clay containing siliceous matter, core porous and gritty. No. 2824, MHSR. II. ii. B (9).

Bases (Fig. 66)

No. 3002, MHSR. II. ii. A (11).

Fragment of the flat base probably of a storage jar with thick sides, core gritty [Fig. 66 (c)—i]

No. 2939, MHSR. II. ii. B (10).

Fragment of a storage jar with tapering, pointed bottom, handmade as indicated by finger impressions on the inner surface, clay containing a large amount of dry grass. [Fig. 66(c)—j].

Ring Stand (Fig. 76)

- T.112 Fragment of a ring-stand with beaded edge at the top, and rounded at the bottom, surfaces coarse red with grass marks.¹ No. 3084, MHSR. II. ii. A (12).

Type 81 of Period IV: Gourd-shape, also occurs in this phase.

COARSE BLACK

(Fig. 76)

Kuṇḍā

- T.113 Fragment of probably a convex-sided and round-based *Kuṇḍā* with porous surfaces, slightly bevelled edge with a ridge on the outside, core porous, black and gritty. No. 1434, MHSR. V. i. A (3).

1. Cf. MARSHALL, J., *MIC*, Vol. III, pl. LXXXIII, No. 53.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Short-Necked Vessels

T.114 Fragment of a short-necked vessel with flaring and rounded rim, surfaces coarse black, the outer surface having a slant incised decoration, core black and porous. No. 20252, MHSR. II. ii. V (9).

T.114a Fragment of a short-necked pot with out-turned rim, smooth greyish surfaces, core porous and grey-brown. No. 298, MHSR. V. i A (3).

POTTERY OF PERIOD VI

This period is marked by an enormous increase in the use of clay vessels. Not only the bulk of pottery increases but new fabrics are introduced and new shapes fashioned by the potter.

The pottery largely comes from Maheshvar trenches, as Navdatoli, on the opposite bank, does not seem to have been heavily populated. Therefore, most of the observations summarised below are based on the study of pottery from the relevant layers, at Maheshvar.

The *black-and-red* shows a little decrease (8.4%) in the bulk as compared to that in Period V. The only feature to be noted is that this ware becomes coarser and thicker in this phase as compared to that in previous phase. The finish of the black-slipped and burnished surface is less neat and perfect. The shapes do not show any novelties save the high-necked vessels which are absent in Periods IV and V in this fabric.

Shapes recurring in this period are 76c, 89 and 89i from Period IV, and 91c, 91d, 92c and 92j from Period V.

The remarkable feature of the ceramic industry of this period is the increase in the output of *Coarse Black Ware*. Both in Periods IV and V, coarse black presented a meagre quantity. This ware has neither slip nor traces of burnishing, and shows firing in closed kilns which left no room for oxidization. The only feature relieving the monotony of the dusty black surfaces is the blotchy appearance of some sherds which are grey and black. The core is invariably black. Most of the shapes are wheel-fashioned, though in a few cases the inner surface at the bottom shows finishing by fingers.

Though lids seem to have been the patent shape in this ware, other considerations indicate that this ware was used principally for cooking. Shapes like the frying pan and the saucer and the blackened bottoms of some confirm the observations. Besides these shapes, bowls, dishes, wide-mouthed vessels, globular pots and ridged bowls were also fashioned. Of

POTTERY OF PERIOD VI

these the saucer is a new shape not to be found in any other contemporary wares, while the frying pan in a cruder form goes back to Period III.

Somewhat allied to the coarse black, but in a majority of cases having a partially black-slipped and burnished outer surface is the *Black-Slipped* ware. This is characterised by a black-slipped and burnished outer surface only upto the shoulder of a vessel and a coarse black and rough inner surface. This ware is more abundant in the Muslim-Maratha phase. (Period VII).

The clay used and the firing technique show close affinity to the coarse black ware described above. The characteristic shape of this ware is the carinated vessel, with the carination in several cases so pronounced as to form a ridge. The shapes do not show any new features as they are common, to wit, globular, wide-mouthed and high-necked vessels.

The *Slipped-Red* ware of this phase shows the application of a thick red slip which is slightly burnished. That this was done not only in the case of small and medium-size vessels but even in the case of big storage-jars (T.133) is remarkable, for storage jars are generally coarse, thick and unslipped. Vessels with constricted neck are the most abundant in this ware during this phase.

Types 79, 79b, 86, 86b, 86c, and 86e from Period IV, and 98, 99b, 99d, 99e, 99f, 100 and 100c from Period V recur in this period.

The *Coarse Red* flowers into a variety of shapes in this period. Besides the bowls, carinated vessels, *Kundā*, lids and pots with bulging sides, the most remarkable are the small *Śuraī* (T. 139), spouted pots, cylindrical cups, pottery stands, incense burner and tiny pots.

The most abundant are the basins. Next come the spouted vessels. These are equipped with stumpy spouts affixed later on to the globular vessel. The stands seem to have been introduced only during this period at Maheshvar. Of these, *T. 144a* is a piece of a stand with cylindrical stem and stepped base, and resembles the dish-on-stand of the Proto-Historic period or Period III. Both these stand-pieces are coated with lime; to what purpose, it is not possible to say.

The cylindrical cups (*T. 146, 146a*) with slightly flaring but somewhat straight and high sides have their counterparts in a different fabric

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

from Mohenjodaro.¹ The gap between these periods indicates that the shape is not a survival. Moreover, it is quite possible that old shapes are unknowingly 'invented' by potters.

The group of tiny vessels (*T.147, 147a-d*) form a class by themselves. These are not to be found in this or any other ware during the previous periods. It is likely that these were used by children in play, or might have some votive significance.

Another new shape is the incense burner (*T. 148*). It is to be noted that similar burners are even now used.

The shapes recurring in this phase are 78, 78a and 81 from Period IV, and 110 and 113 from Period V.

The *Tan Ware* is, as in the previous period, represented by few sherds. It bears the same characteristics, viz. thick tan slip, porous core and impure clay. The shapes also do not go beyond bowls and dishes. It seems that this ware was not much popular at any time at Maheshwar.

The practice of coating *pottery with a micaceous slip* seems to have been adopted on a fairly large scale during this period. Otherwise, there is nothing remarkable about this ware. The original surface is coarse red, and the core brown-red. This ware continues even in the Muslim-Maratha period, i.e. Period VII.

Another novel ceramic introduction during this phase is the *pottery with quartz grains*. These are mixed right in the clay as the core shows. The surfaces are treated with a red slip which is also mixed with quartz. This naturally gives a peculiar appearance to the ware. Sometimes the vessels are slipped only up to the shoulder, the lower portion remaining coarse red. The carinated vessel is the patent shape of this ware.

The fabric continues even in the Muslim-Maratha, i.e. VIIth period.

BLACK-AND-RED

(Figs. 77, 78)

Dishes (Fig. 77)

T.115 Half of a dish angular near the sagging base, recurved sides, tapering edge, core black and porous. No. 20064, MHSR. II. ii. Z (5).

1. MARSHALL J., *MIC*, Vol. III, pl. LXXXVI, No. 5.

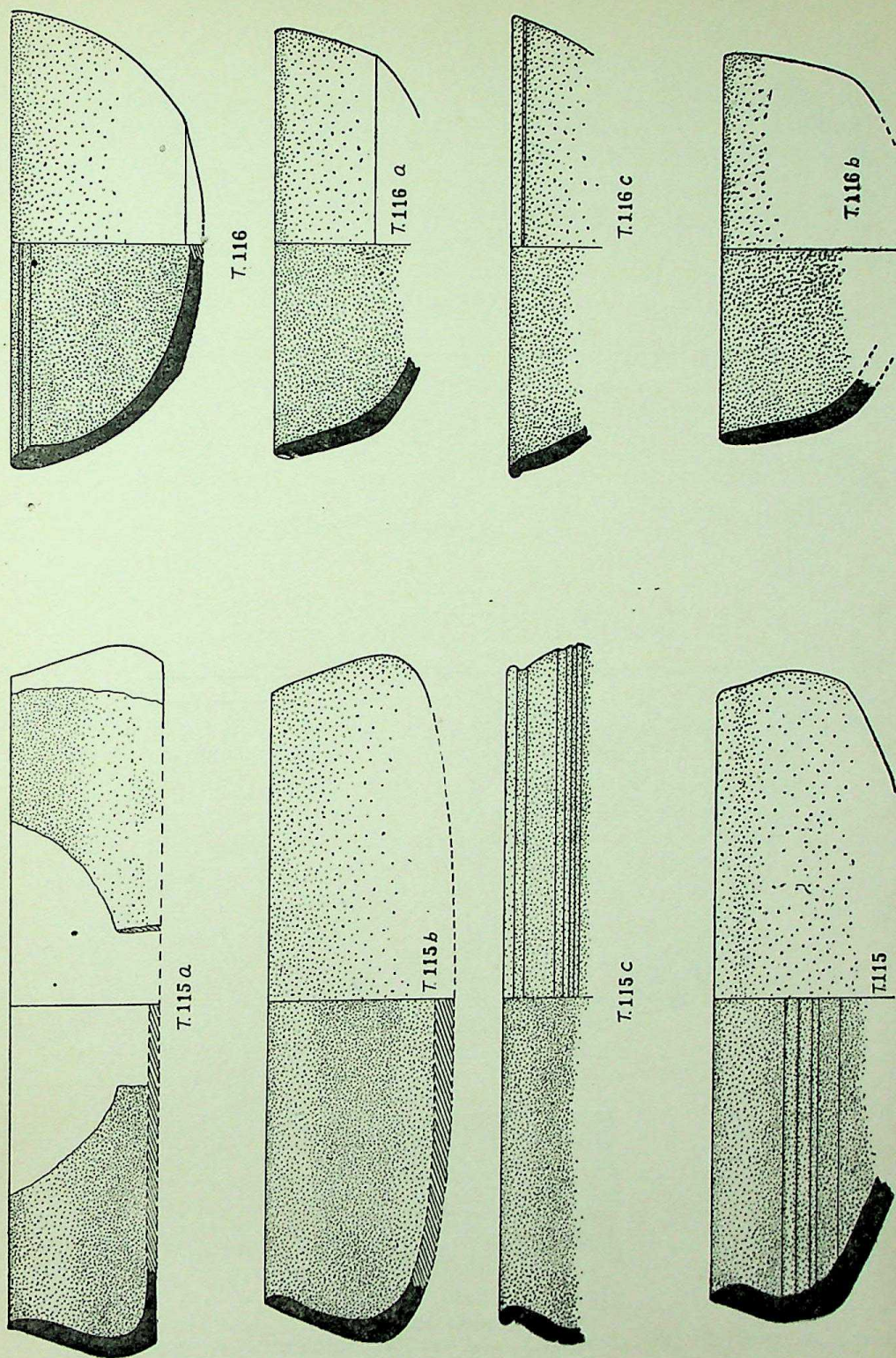
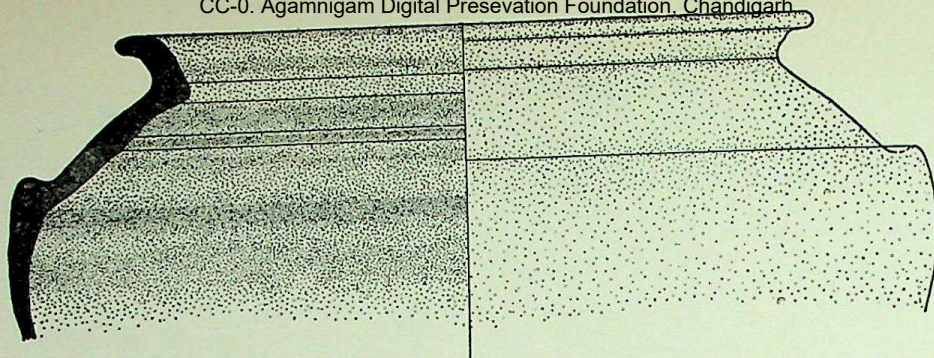
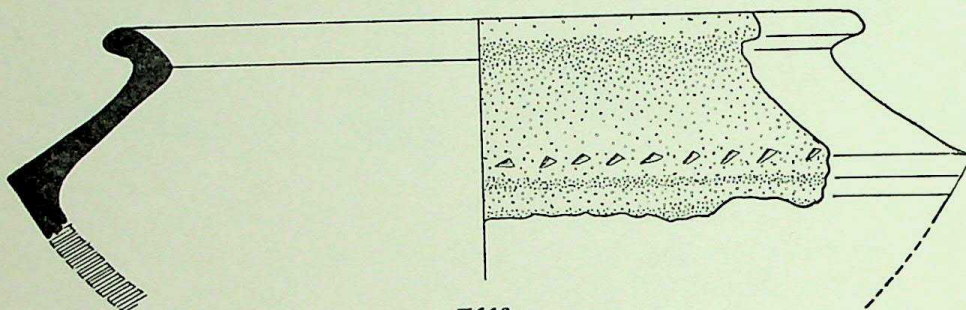


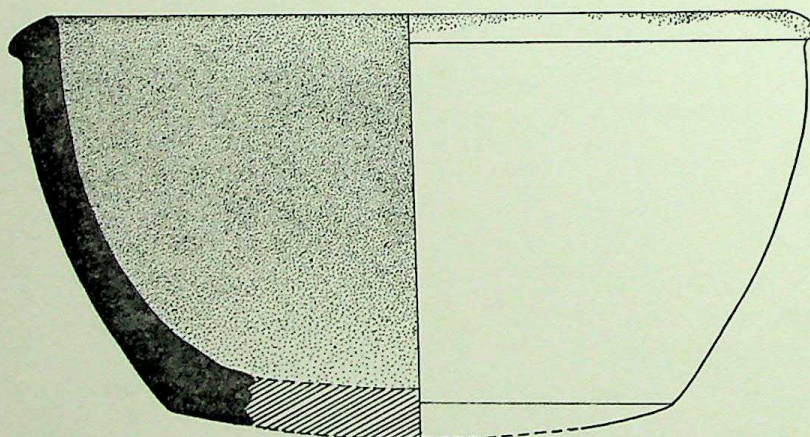
Fig. 77 Types 115-116c [4]: Black-and-Red Ware (T. 115-115c, Dishes; T. 116-116c, Bowls), Period VI. (See pp. 152-53)



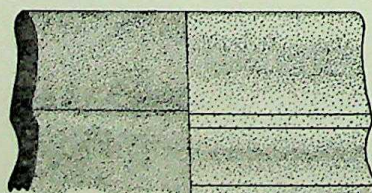
T. 119a



T. 119



T. 117



T. 118

Fig. 78 Types 117-119a. [$\frac{1}{2}$]
Black-and-Red Ware (T. 117, Kunda; T. 118, High-necked Vessel) Burnished Black Ware (T. 119-119a, Carinated Vessels). Period VI. (See p. 153)

POTTERY OF PERIOD VI

- T.115a Fragment of a completely flat base of a dish with inturned, recurved tapering sides, surfaces highly burnished, compact black core. No. 827, MHSR. II. ii V (6).
- T.115b Fragment of a dish convex at the base, straight inturned sides, thick at the base, surfaces well burnished, core compact black. No. 827a, MHSR. II. ii V (6).
- T.115c Fragment of a dish with beaded edge, convex sides and a shallow groove on the outer side which is well burnished. No. 5001, MHSR. V. i. I (3).

Bowls

- T.116 Fragment of a rimless bowl with bevelled edge, angular at the base which is sagging, sides convex and flaring, inner surface more burnished, core porous and gritty. No. 2507, MHSR. V. i. B (6).
- T.116a Fragmentary piece of a bowl with tapering sides, rounded edge and base, inner surface well-burnished. No. 2506, MHSR. V. i. B (6).
- T.116b Rimless bowl-fragment with straight sides, rounded edge, thicker base, core porous, gritty and partly black and partly brown. No. 965, MHSR. V. i. (4).
- T.116c Fragmentary piece of a bowl with rounded edge having a shallow groove immediately below it, well burnished sides, core porous. No. 930, MHSR. V. i. (4).

Kundā (Fig. 78)

- T.117 Fragment of a *Kundā* with convex sides, flat base, bevelled edge with a groove below, inner surface black-slipped and burnished, outer coarse red, core porous and gritty. No. 20139, MHSR. II. ii. (4).

High-Necked Vessel

- T.118 Fragmentary piece of the straight, high rim of a vessel, fully black-slipped and burnished outside and partially inside. No. 20135, MHSR. II. V (5).

BURNISHED BLACK

(Figs. 78, 79)

This ware is characterised by a black-slipped outer surface which is generally slightly burnished.

Carinated Vessels (Fig. 78)

- T.119 A portion of a carinated vessel, black-slipped and burnished outside, inside coarse black, out-turned rounded rim, probably rounded bottom, oblique incised triangle-decoration on the outer carination, core compact, black. No. 17120, MHSR. II. ii. A (4).
- T.119a Similar to above but with ridged carination. No. 1623, MHSR. II. ii. H (3). (Also occurs in *Coarse Black*).

Globular Vessels (Fig. 79)

- T.120 Part of a globular vessel with grooved, squared, out-turned rim, surface black-slipped and burnished, inner coarse grey-black, core containing straw. No. 1977, MHSR. II. ii. C (4).
- T.120a Fragment of a globular vessel with constricted neck, flaring and slightly out-beaded rim, outer surface black-slipped and burnished, inner coarse black, core black and porous. No. 2655, MHSR. II. ii. D (5).

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- T.120b Mouth-piece of a globular vessel with flat top, ridge at the outer surface near the mouth, outer surface black burnished, inner coarse black. No. 1182a, MHSR. II. ii. G (2).

Wide-Mouthed Vessel

- T.121 Fragment of a wide-mouthed vessel with out-turned rounded rim, bulging sides getting thinner towards the base, outer surface black burnished, the inner also well burnished, core porous and having particles of silicious matter. No. 2435, MHSR. V. i. B (4).

High-Necked Vessel

- T.122 Fragmentary neck-piece of a high-necked vessel with only the outer portion black burnished, inner grey-black, core compact grey. No. 2221, MHSR. II. ii. E (4).

COARSE BLACK

(Figs. 79, 80, 81)

Carinated Vessels (Fig. 79)

- T.123 Similar to *Type 119a* but without rim, surfaces coarse black. No. 1836a, MHSR. II. ii. B (4).
 T.123a Similar to above but the carination having no ridge. No. 1836, MHSR. II. ii. B (4).
 T.123b Fragment of a carinated vessel with contracted neck, out-turned rounded rim, thicker towards the base, coarse black surfaces, core black and porous. No. 2084, MHSR. II. ii. D (4).
 T.123c Similar to above but with thin and straight sides, core brown and black. No. 1155, MHSR. II. ii. F (2).

Lids (Fig. 80)

- T.124 A complete, small-size lid with a flat knob, surfaces coarse black-grey. No. 1168, MHSR. II. ii. F (2).
 T.124a Fragment of probably slightly domical roofed lid with coarse red and black surfaces, core gritty. No. 1759, MHSR. II. ii. A (4).

Saucer

- T.125 Fragment of a saucer with flat edge and thick sides, inner surface smooth, outer rough and coarse, thinner towards the base. No. 2261, MHSR. II. ii. B (5).

Bowl

- T.126 Fragment of a thick-sided rimless bowl with tapering edge, surfaces unburnished, core black and porous. No. 275, MHSR. I. i. C (5).

Ridged Bowl

- T.127 Fragment of a ridged-bowl with flattish top beaded on both the sides, surfaces coarse black, core porous. No. 1580, MHSR. II. ii. F (3).

Dish

- T.128 Fragment of a dish with thick acute-angled sides, rounded edge, carinated at the base, surfaces coarse black. No. 2781, MHSR. II. ii. C (7).

Wide-Mouthed Vessel

- T.129 Fragment of a vessel with constricted neck, flaring rim with rounded edge, slight carination at the shoulder which has oblique incised decoration, inner surface coarse black, outer blotchy. No. 2584, MHSR. II. ii. C (5).

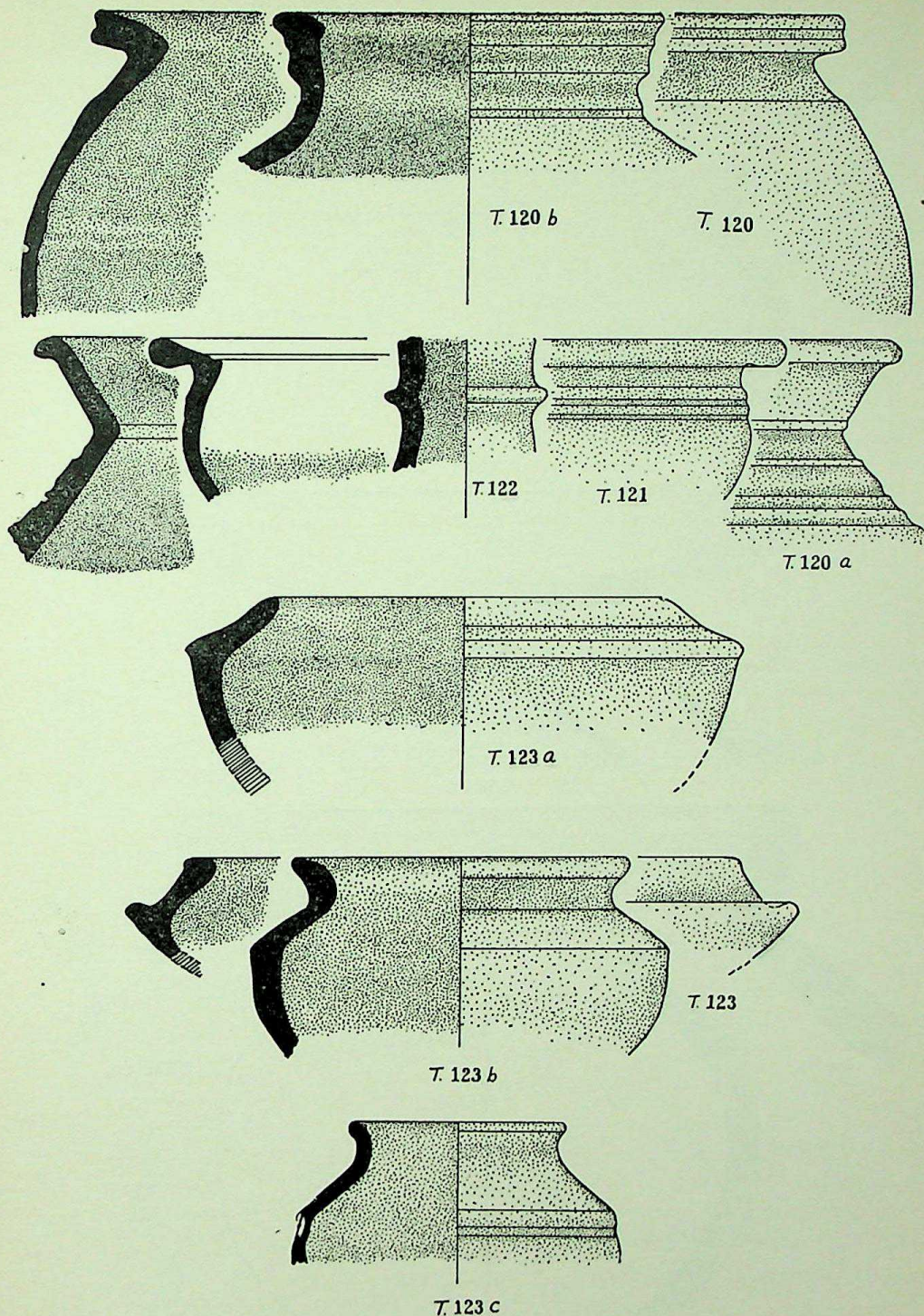


Fig. 79 Types 120-123c [$\frac{1}{2}$]

Burnished Black Ware (T. 120-120b, Globular Vessels ; T. 121, Wide-mouthed Vessel ; T. 122, High-necked Vessel)
Coarse Black Ware (T. 123-123c, Carinated Vessels). Period VI. (See pp. 153-54)

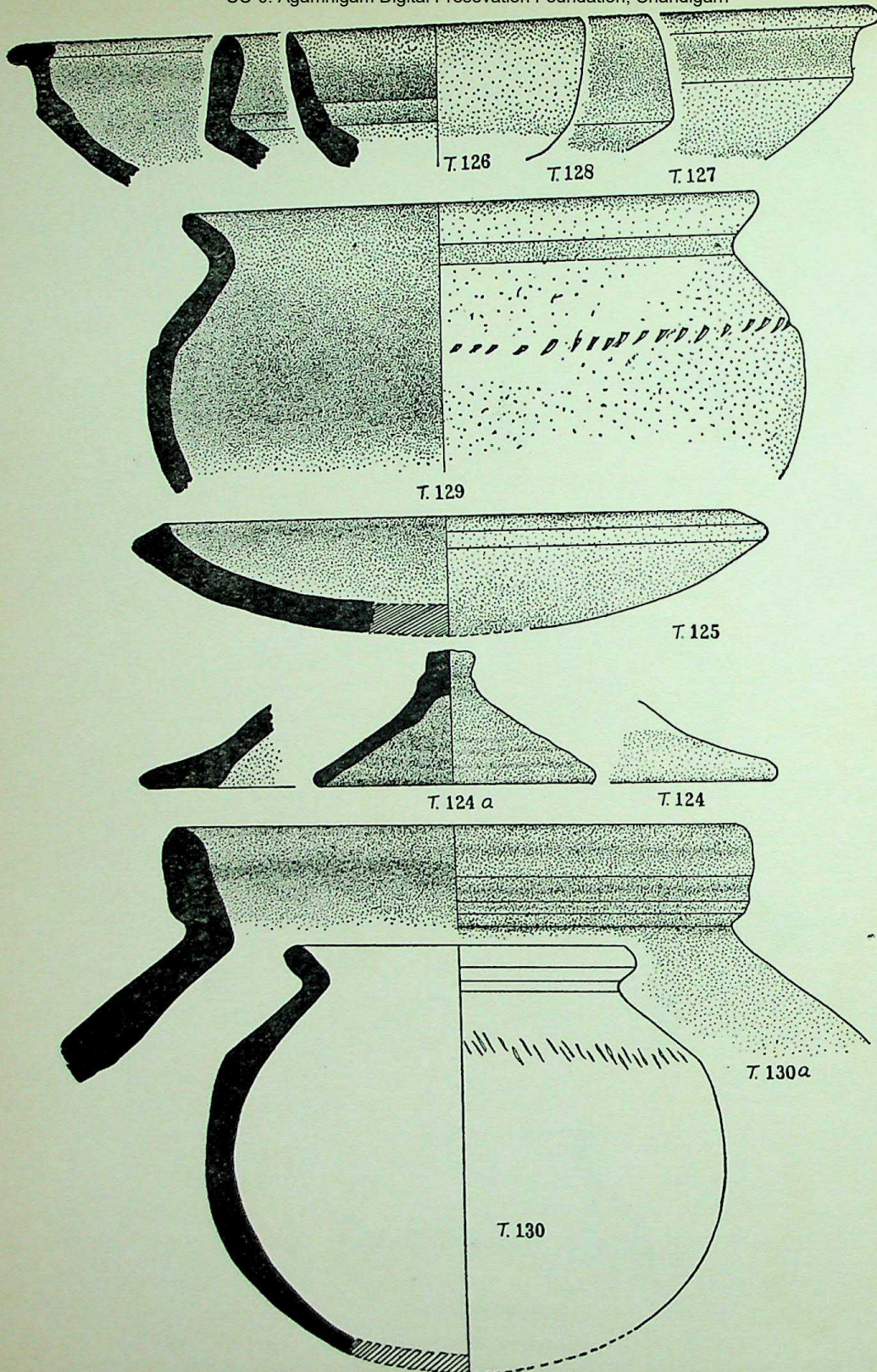


Fig. 80 Types 124-130a [$\frac{1}{2}$]

Coarse Black Ware (T. 124-124a, Lids; T. 125, Saucer; T. 126, Bowl; T. 127, Ridged Bowl; T. 128, Dish; T. 129, Wide-mouthed Vessel; T. 130-130a, Globular Vessels). Period VI. (See pp. 154-55)

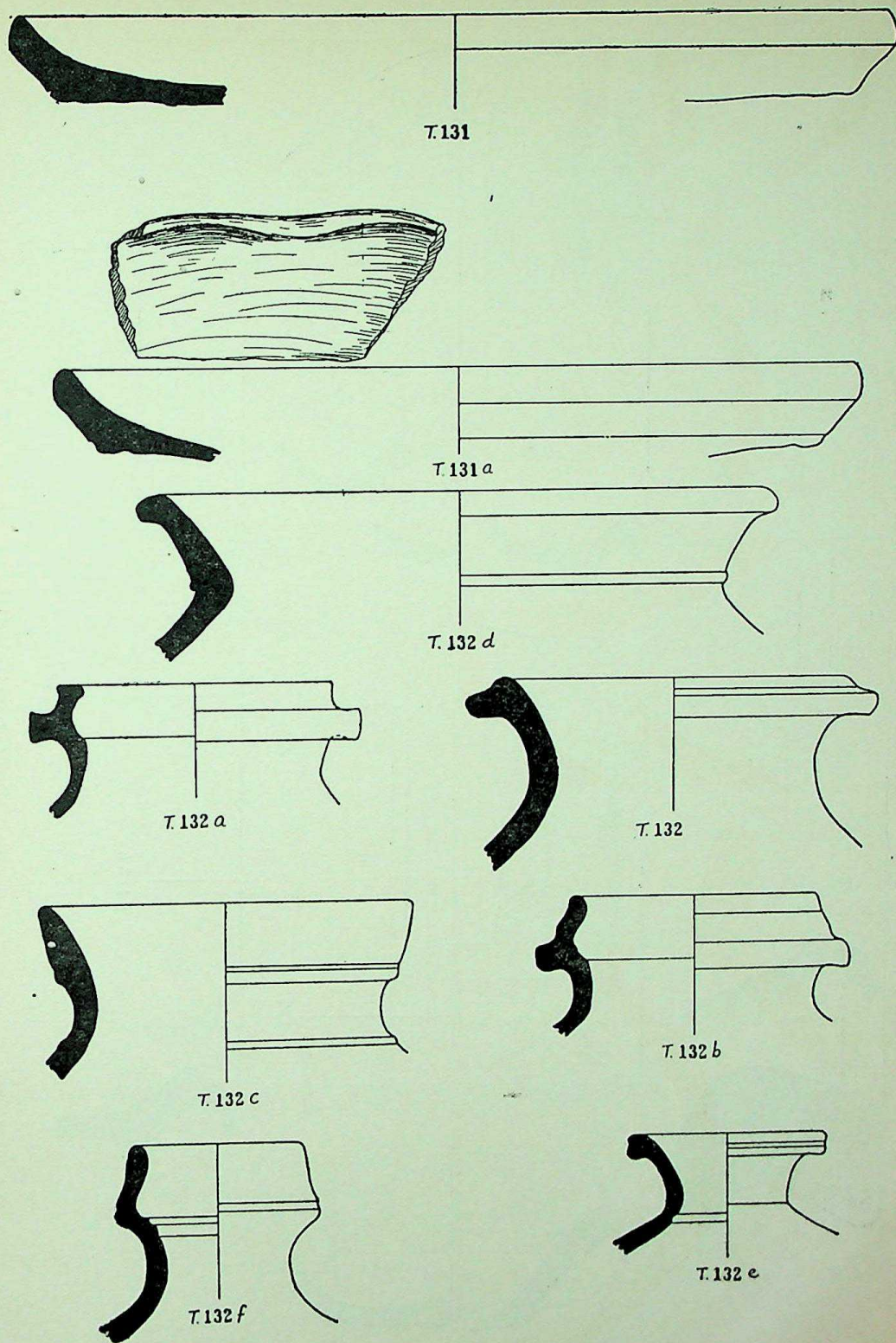


Fig. 81 Types 131-132f [$\frac{1}{4}$] : Coarse Black Ware. (T. 131-131a, Frying Pans). Red-slipped Ware (T. 132-132f, Short-necked Globular Vessels). Period VI. (See p. 155)

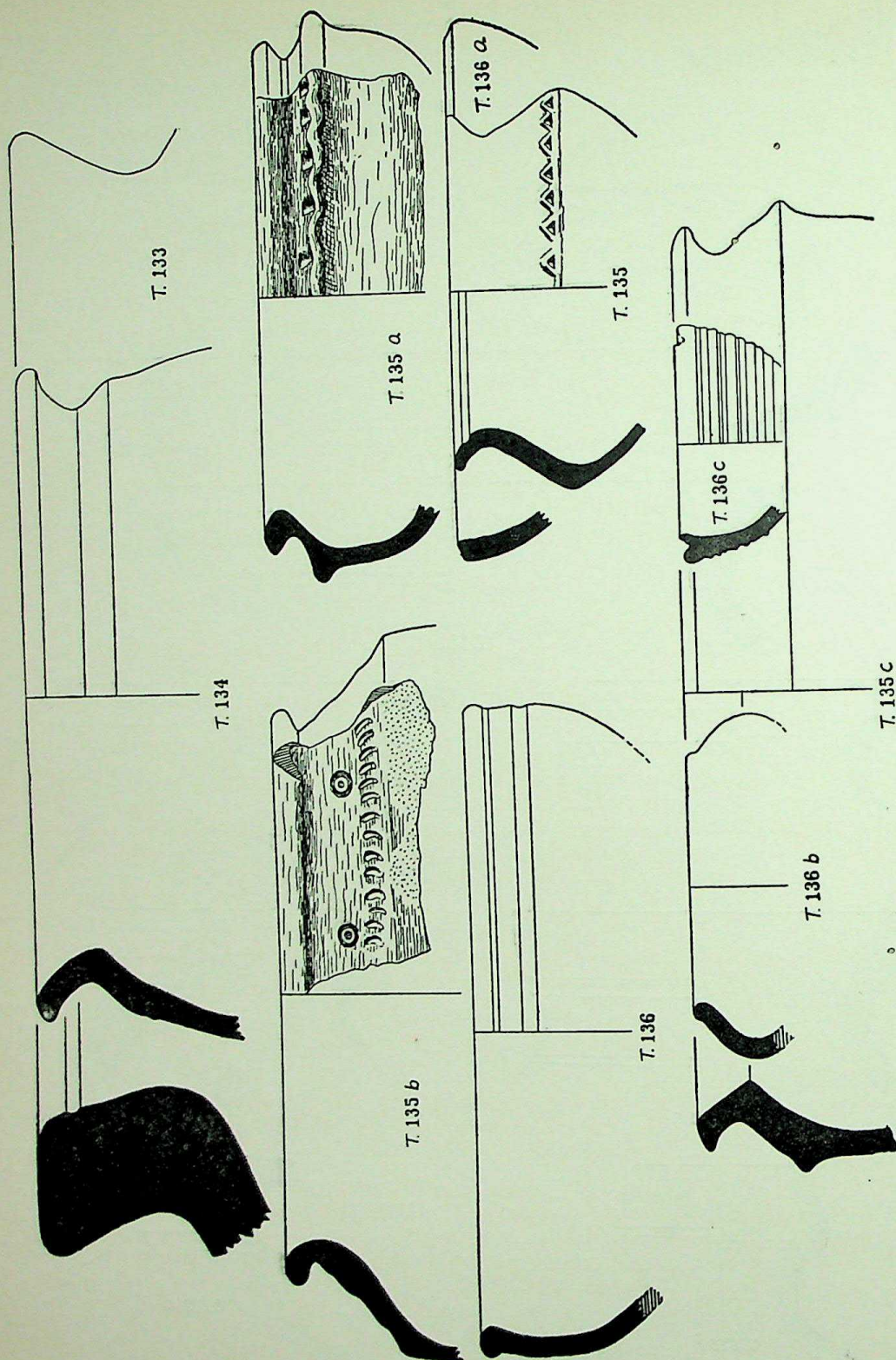


Fig. 82 Types 133-136c [†]
 Red-slipped Ware (T. 133, Storage Jar; T. 134, Vessel with Constricted Neck; T. 135-135c, Carinated Vessels; T. 136-136c, Bowls). Period VI. (See pp. 155-56)

POTTERY OF PERIOD VI

Globular Vessels

- T.130 Half of a globular vessel with constricted neck, squared edge, light red up to the shoulder, inner surface coarse, outer surface having slanting incised decoration near the shoulder, clay containing silica and straw, base thin and black; possibly a cooking vessel. No. 1138, MHSR. II. ii. C (2).
- T.130a Fragment of a thick-sided globular vessel with constricted neck, rounded and slightly flaring rim, surface coarse black, inner reddish. No. 2827, MHSR. II. ii. B (6).

Frying Pan (Fig. 81)

- T.131 Fragment of a frying pan with slightly raised sides, thin and angular at the base, inner surface smooth, outer bottom rough. No. 1652, MHSR. II. ii. H (2).
- T.131a Similar to above but with a pinched side. No. 1655, MHSR. II. ii. H (3).

RED-SLIPPED WARE

(Figs. 81, 82)

This ware bears a red slip and burnished surfaces unless otherwise stated.

Short-Necked Globular Vessels (Fig. 81)

- T.132 Fragment of a short-necked globular vessel with a grooved-rim. No. 2544, MHSR. II. ii. B (4).
- T.132a Similar to above but with a flattened, ringed rim, surfaces having a red wash. No. 2082, MHSR. II. ii. D (4).
- T.132b Similar to above but with the top tapering. No. 2224, MHSR. II. ii. E (4).
- T.132c Fragment of a globular vessel with a red wash, and a broad collared rim. No. 1247, MHSR. II. ii. A (3).
- T.132d Fragment of a globular vessel with a constricted neck, and a rounded out-turned lip, surface having a brownish slip, core black flanked by light brown on both sides. No. 2127, MHSR. II. ii. D (4).
- T.132e Fragment of the neck of a globular vessel with a grooved rim. No. 2545, MHSR. II. ii. B (5).
- T.132f Fragment of a narrow-necked globular vessel with tapering rim, surfaces having a red wash. No. 2223A, MHSR. II. ii. E (4).

Storage Jar (Fig. 82)

- T.133 Fragmentary flat-topped rim of a big storage jar. No. 2545a, MHSR. II. ii. C (3).

Vessel with Constricted Neck

- T.134 Fragment of a vessel with a out-turned lip, constricted neck, sides tapering from the bottom, a ridge on the shoulder. No. 1324, MHSR. II. ii. B (3).

Carinated Vessels

- T.135 Half of a carinated pot with rounded bottom, incised decoration at the carination, out-turned rounded rim. No. 1250, MHSR. II. ii. A (3).
- T.135a Fragment of a squattish *handi*-like pot with a projected carination effected into a wavy design, rounded bulbous rim, surfaces having a thick brownish slip. No. 1305a, MHSR. II. ii. B (3).

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- T.135b Fragmentary piece of a carinated vessel with sloping shoulder, beaded rim, black towards the bottom, incised decoration (circles and vertical strokes) on the outer surface. No. 1305b, MHSR. II. ii. B (3).
- T.135c Fragment of a carinated vessel with sides getting thinner towards the base, ridged shoulder, bevelled edge, blackish slip on the outer surface towards bottom, rest of the surfaces having thick red slip, core compact and red. No. 2300, MHSR. II. ii. F (4).

Bowls

- T.136 Fragment of a rimless bowl with thick sides, beaded edge, core porous and brown. No. 316, MHSR. I. i. D (6).
- T.136a Fragment of a rimless bowl with a flat edge, core porous. No. 20000, MHSR. ii. Z (1).
- T.136b Fragment of a rimless bowl with bulging sides, rounded edge with a shallow groove below it, outer surface partly red-slipped and burnished, black towards bottom, inner surface coarse brown, core porous brown. No. 20018. MHSR. II. ii. Z (2).
- T.136c Fragment of a bowl with a grooved top, surfaces coarse brown, core compact brown, possibly a flat base. No. 2620, MHSR. II. ii. C (5).

COARSE RED

(Figs. 83, 84, 85, 86, 87)

Bowls (Fig. 83)

- T.137 Fragment of a shallow, rimless bowl with rounded edge and surfaces having a thin reddish wash, core compact red. No. 2640, MHSR. V. i. A (6).
- T.137a Almost a complete rimless bowl with tapering and slightly flaring sides, flat base, surfaces smoothened with a mechanical slip, core compact and hard-baked. No. 2404, MHSR. V. i. B (4).
- T.137b Similar to T.137a, but with thicker sides getting thinner towards the base, bevelled edge and surfaces having a creamy-brown wash, core compact, brown red. No. 2609. MHSR. II. ii. C (5).
- T.137c Similar to above but with consistent thick sides, grooved top and chocolate wash. No. 1825, MHSR. II. ii. A (4).
- T.137d Fragment of a squat bowl with bulging sides getting thinner towards the top, core porous. No. 1600, MHSR. II. ii. G (3).

Carinated Vessels

- T.138 Fragment of a vessel with raised shoulder, constricted neck, out-turned rim, sides getting thinner towards base, surfaces having a chocolate wash, core brown and porous. No. 2256, MHSR. II. ii. E (4).
- T.138a Fragmentary piece of a vessel with slight carination, narrow neck, out-turned rounded rim, red wash on the outer surface, core silicious. No. 1607, MHSR. II. ii. G (3).
- T.138b Fragment of a vessel with raised carination having incised decoration, surfaces coarse red. No. 2718, MHSR. II. ii. B (6).
- T.138c Fragment of a squattish carinated bowl with a discoid base, surfaces showing traces of red wash. No. 1590, MHSR. II. ii. G(3)

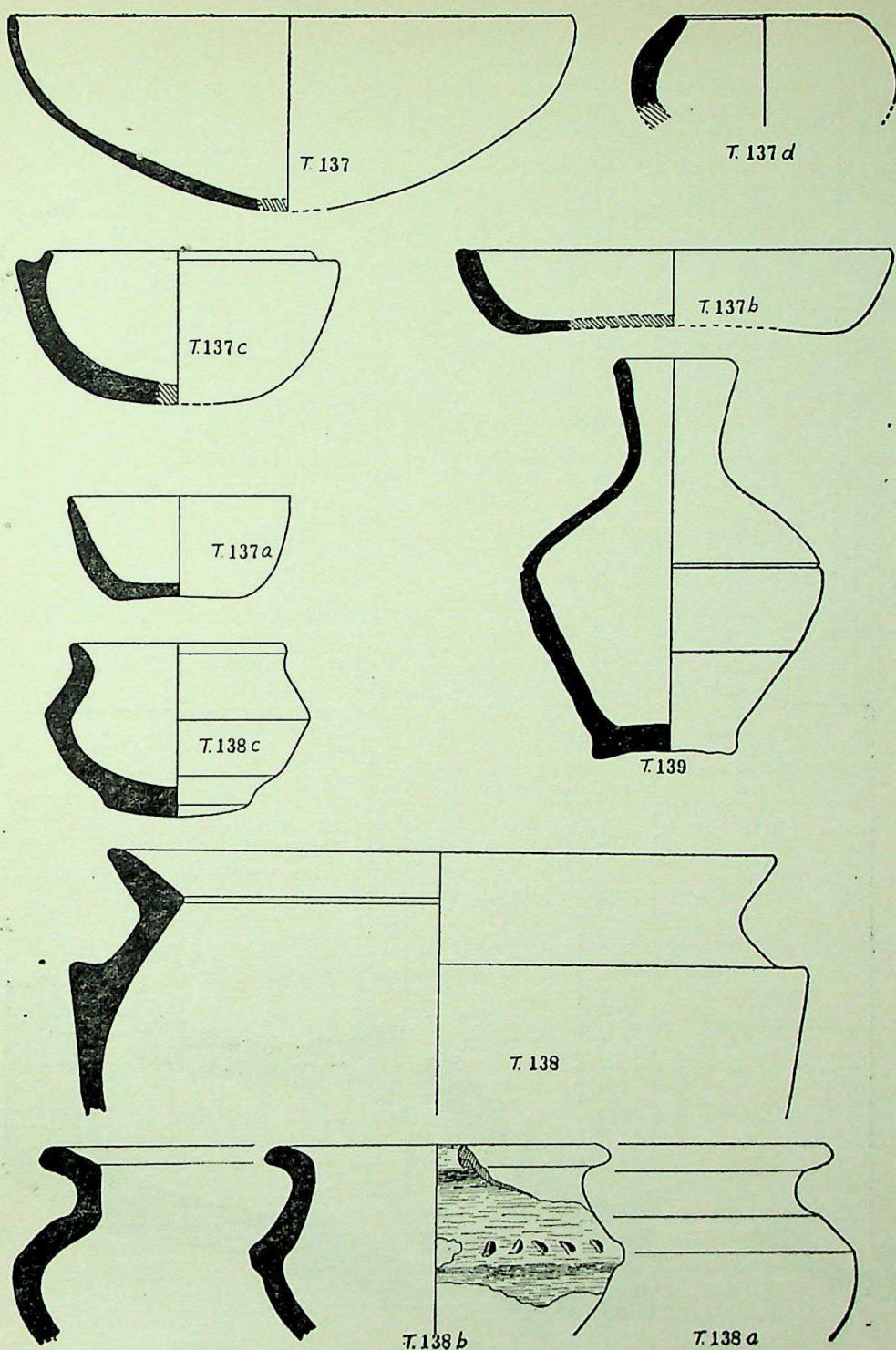


Fig. 83 Types 137-139 [4]
CoarseRedWare (T. 137-138, Bowls; T. 138-138c, Carinated Vessels; T. 139, High-necked Vessel). Period VI. (See pp. 156-57)

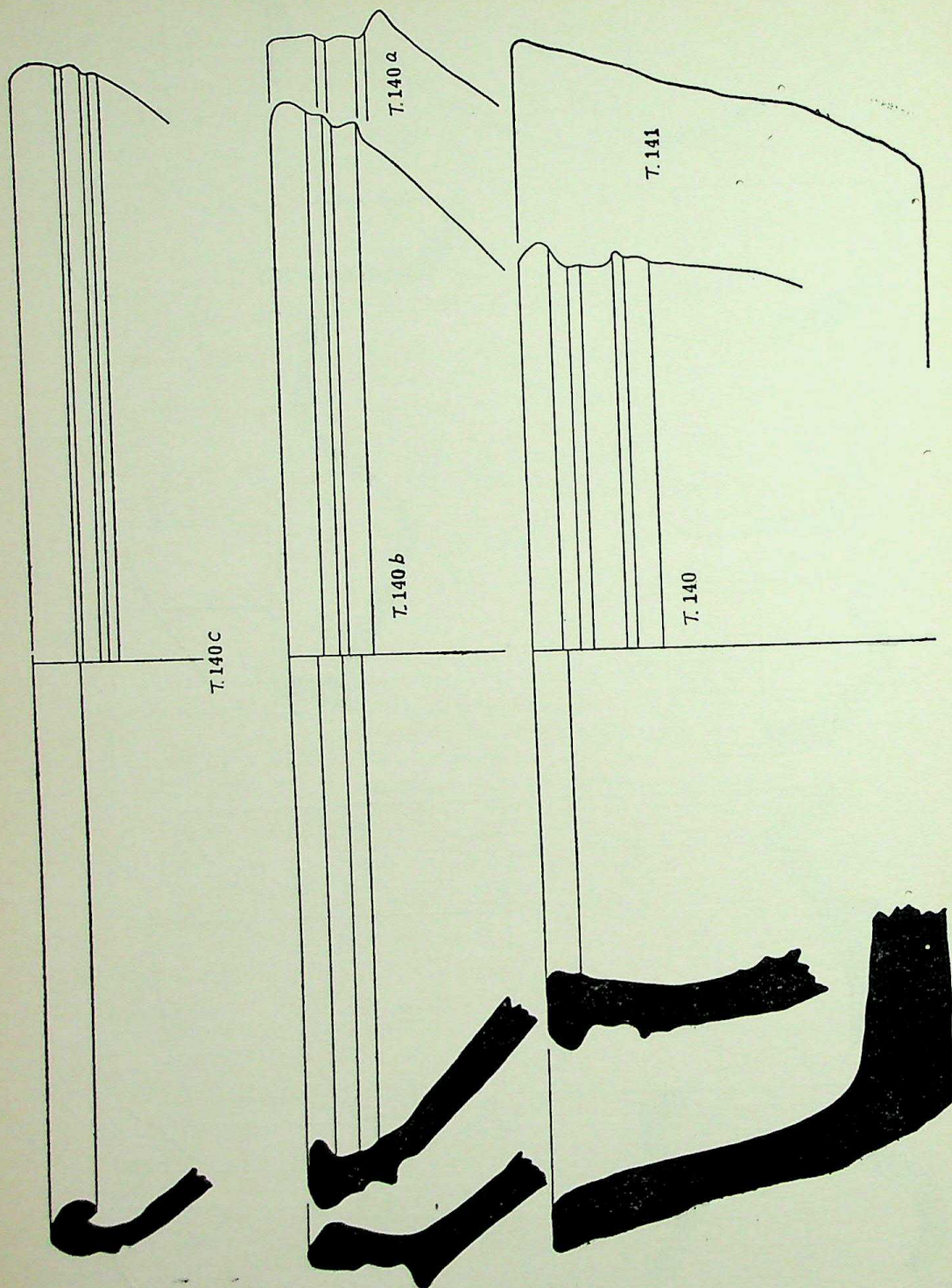


Fig. 84 Types 140-141 [1]: Coarse Red Ware (T. 140-140c, Basins; 141, Kunda). Period VI. (See p. 157)

POTTERY OF PERIOD VI

High-Necked Vessel (Surai)

- T.139 Similar to *Type 85* of Period IV, but smaller and thinner, having a discoid base and a greenish coating over reddish surface due to its being in a ring-well for a long time. No. 21004, MHSR. II. ii. (Ring-well.)

Basins (Fig. 84)

- T.140 Fragment of a basin with thick straight sides, flat top, out-beaded rim, a ridge on the outer surface having a lime coating all over, wheel-made. No. 1251b, MHSR. II. ii. A (3).
- T.140a Fragmentary basin piece with rounded base, beaded rim, a ridge on the outer surface, surfaces having traces of red slip and burnishing. No. 1615, MHSR. II. ii. G (3).
- T.140b Similar to above but having a bevelled top and a prominent ridge on the outer surface possibly to receive a lid. No. 1914, MHSR. II. ii. A (4).
- T.140c Fragmentary basin-piece with comparatively thinner sides and the rim undercut internally. No. 1507, MHSR. II. ii. E (3).

Kundā

- T.141 Fragment of a *kundā* with thick flaring side and flat base, surfaces coarse red. No. 2678, MHSR. II. ii. D (5).

Lids (Fig. 85)

- T.142 A complete lid with discoid top, and a corrugated body, flat base, body coarse red. No. 100a, MHSR. II. ii. A (4).
- T.142a Similar to above but with rounded top and partially slipped body. No. 2008, MHSR. II. ii. C (4).
- T.142b A lid with carination and a flat top. No. 451, MHSR. II. ii. F (4).
- T.142c A tiny lid with discoid top, convex and coarse red surfaces. No. 696, MHSR. II. ii. D (5).

Pots with Convex Sides

- T.143 Half of a tiny pot with bulging side, collared rim, both the surfaces coated with lime, core compact red flanking black on either side. No. 1807, MHSR. II. ii. A (4).
- T.143a Fragment of a pot with bulging sides getting thinner towards the base, out-turned rim, and a ridge on the outer shoulder, coarse red surfaces. No. 1659, MHSR. II. ii. H (3).
- T.143b Similar to above but bigger in size and having corrugations on the outer shoulder. No. 2517, MHSR. II. ii. B (5).

Stands

- T.144 The lower part of a stand with cylindrical stem tapering towards the slipped bottom, outer surface having a lime wash, core porous and black flanked on either side by red. No. 1364, MHSR. II. ii. C (4).
- T.144a Fragmentary base of a dish-with-stand(?) with a stepped rise towards the stem, outer surface having a red wash, core porous and red. No. 1410, MHSR. I. i. D (2).
- T.144b Fragmentary piece of a pottery stand with thick beaded edges at both the ends. No. 34, MHSR. I. (Ring-well).

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Spouted Vessels (Fig. 86)

- T.145 A complete spouted pot with a flat base, rim having a shallow groove on it, spout inserted and jutting out in the interior, traces of red wash all over. No. 591, MHSR. II. ii. D (4).
- T.145a Half of a globular vessel with rounded base, bulging sides, a ridge below the spout, out-turned rim with a flat top, spout-perforation bored by means of a round instrument. No. 20082, MHSR. II. ii. Y (3).

Cylindrical Cups

- T.146 Fragment of a cylindrical cup with flat top projecting out a bit, straight sides, the outer surface coated with lime, inner surface black, core porous and black and red. No. 1755, MHSR. II. ii. A (4).
- T.146a Fragmentary piece of a coarse red cylindrical cup, getting thicker towards the base, traces of red wash all over, core porous and red. No. 1241. MHSR. II. ii. A (3).

Tiny Pots

- T.147 Almost a complete tiny vessel somewhat biconical in shape, discoid base, narrow neck and flaring rim, coarse red surfaces. No. 752, MHSR. II. ii. B (5).
- T.147a Complete tiny vessel with elongated bulging sides, discoid base, corrugated body, out-turned rim, coarse red surfaces. No. 2482, MHSR. II. ii. A (5).
- T.147b A small pot with wide mouth, flat base, bulging at the belly. No. 1186, MHSR. II. ii. G (2).
- T.147c A small squat pot with wide mouth, flat base, bulging at the belly. No. 1186, MHSR. II. ii. G (2).
- T.147d A small pot with discoid base, ridged shoulder and wide mouth. No. 725, MHSR. II. ii. C (5).

Incense Burner (Fig. 87)

- T.148 A complete incense burner with hollow and small base, wider upper dish to contain embers and incense, finger-tip decoration in the middle, coarse red surfaces.

TAN WARE

Only a few sherds of this ware were found. It has a fine burnished tan slip. The cores in this fabric are either fully tan showing better firing and pure clay, or have a blackish streak flanked on either side by brown. In the latter case, the clay contains silicious matter.

The shapes are

- (i) a dish with bulging sides.
- (ii) a rimless bowl, and
- (iii) a vessel with constricted neck and out-going rim.

The types, being common in other wares, are not illustrated.

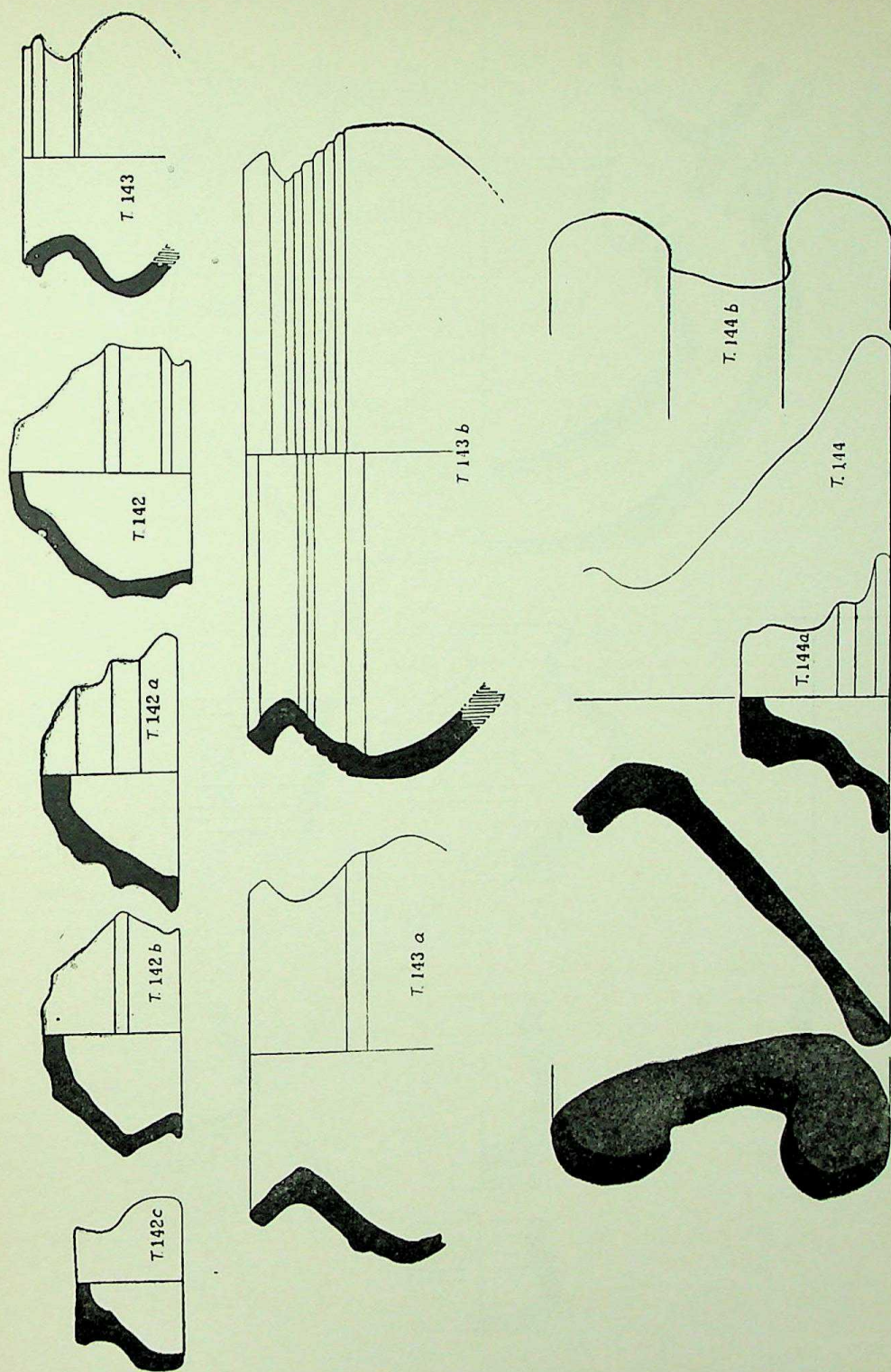


Fig. 85 Types 142-144b [†]: Coarse Red Ware (T. 142-142c, Lids, T. 143-143b, Pots with Convex Sides; T. 144-144b, Stands). Period VI. (See p. 157)

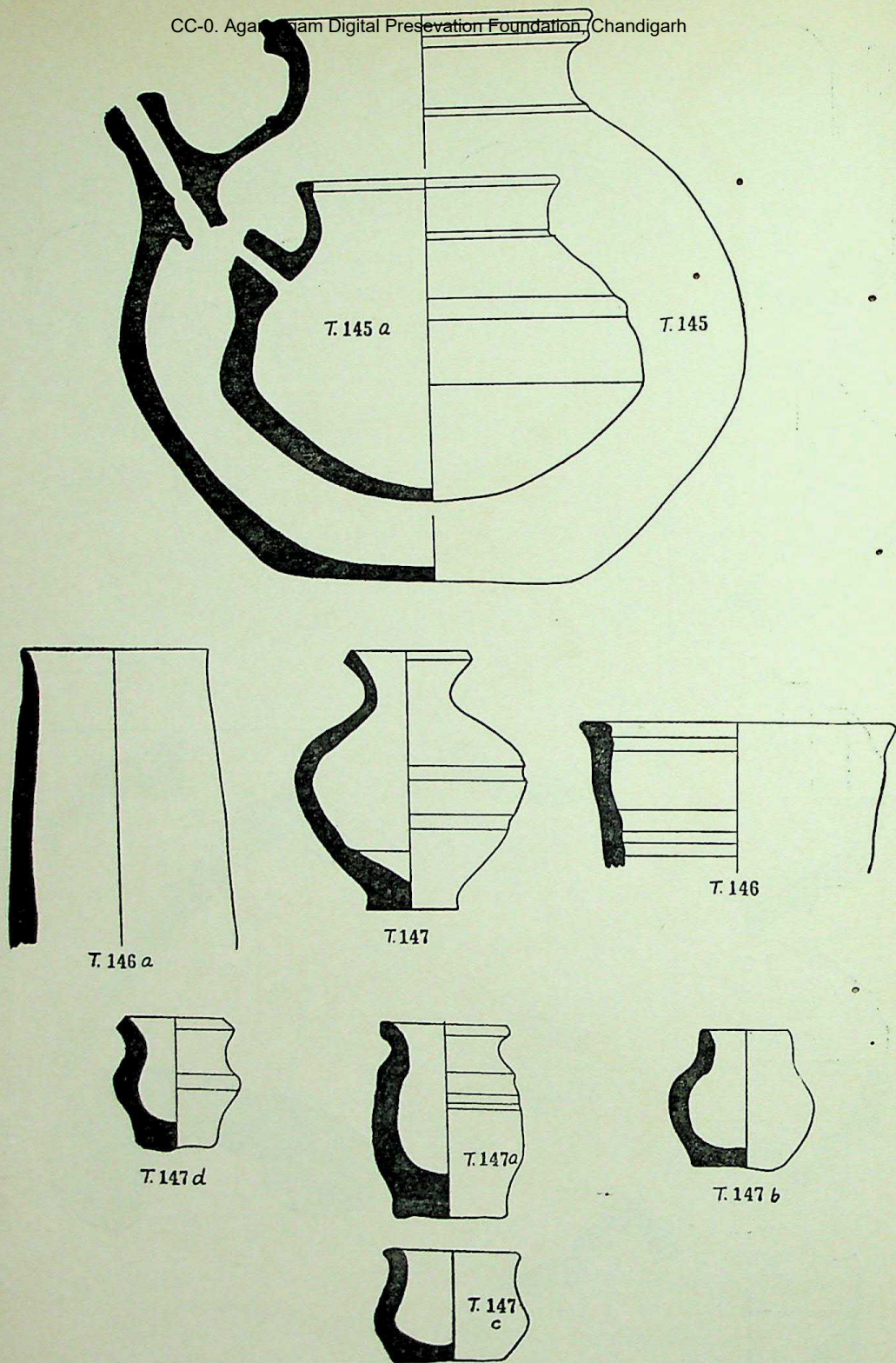


Fig. 86 Types 145-147d [$\frac{1}{2}$]
Coarse Red Ware (T. 145-145a, Spouted Vessels ; T. 146-146a, Cylindrical Cups ; T. 147-147d, Tiny Pots). Period VI. (See p. 158)

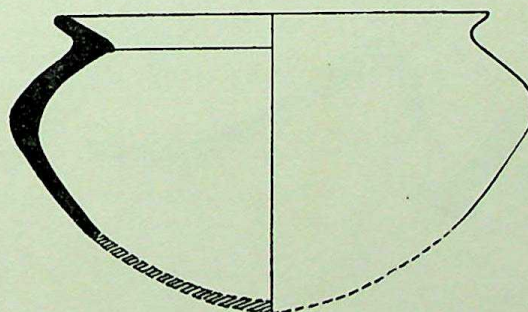
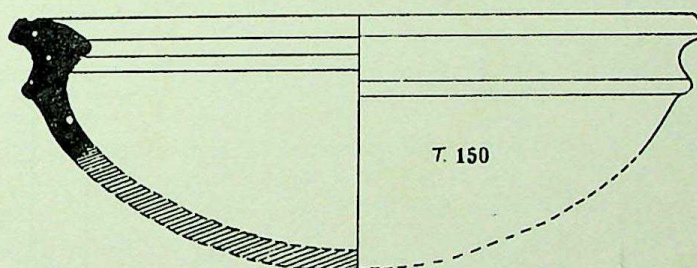
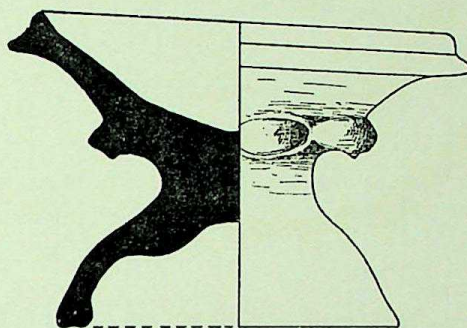
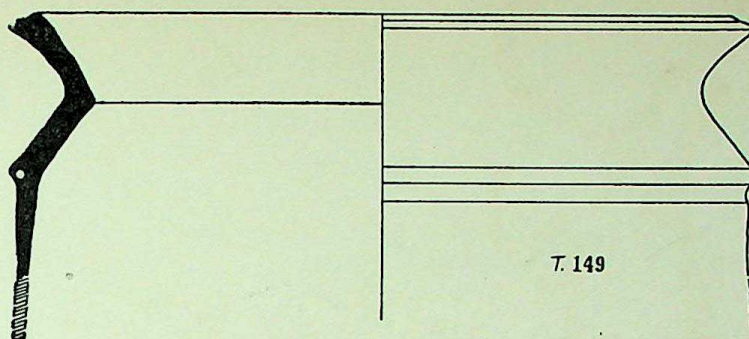


Fig. 87 Types 148-151 [$\frac{1}{2}$]
Coarse Red Ware (T. 148, Incense Burner). Micaceous Ware (T. 149, Vessel with Straight Sides; T. 150, Bowl; T. 151, Vessel with Constricted Neck) Period VI. (See pp. 158-59)

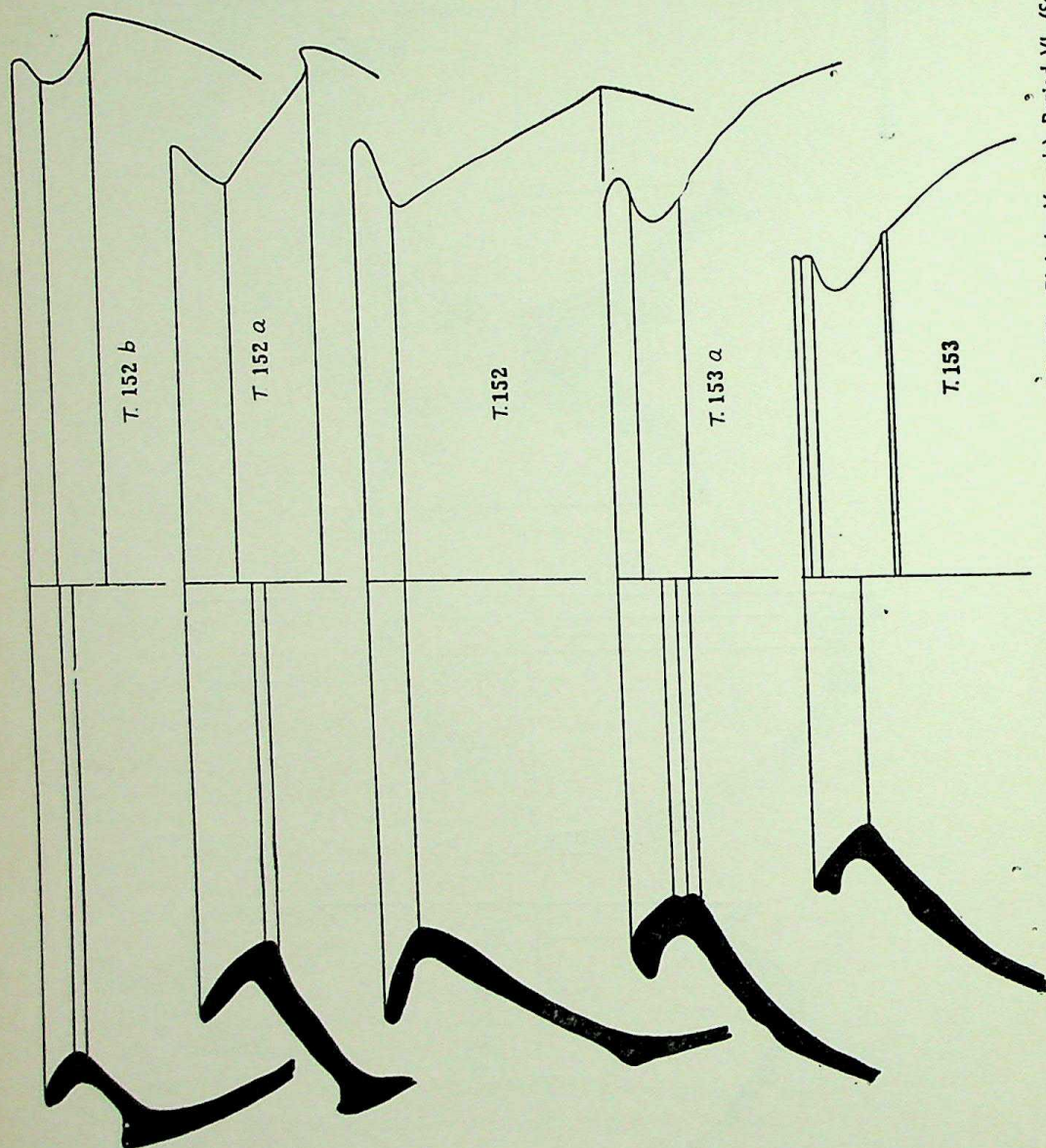


Fig. 88 Types 152-153a [1]: Ware with Quartz Grains (T. 152-152b, Carinated Vessels; T. 153-153a, Globular Vessels). Period VI. (See p. 159)

POTTERY OF PERIOD VI

MICACEOUS WARE

(Fig. 87)

Vessel with straight sides

- T.149 Fragment of a vessel with straight sides, out-going rim, constricted neck, surfaces originally red but coated with lustrous golden mica-powder, core gritty and porous. No. 2066, MHSR. II. ii. D (4).

Bowl

- T.150 Fragment of a bowl with a ridge below the rim which is out-going and grooved, rounded base, surfaces having a glittering micaceous slip. No. 2384, MHSR. II. ii. G (4).

WARE WITH QUARTZ GRAINS

(Figs. 87, 88)

This ware is characterised by a brownish core. The outer surface has a thin reddish slip mixed with profuse powdered quartz which appears as specks.

Squat Vessel (Fig. 87)

- T.151 Fragment of a squat vessel, somewhat biconical in outline, constricted neck, out-turned tapering rim, sides getting thinner towards the base. No. 1751, MHSR. II. ii. A (4).

Carinated Vessels (Fig. 88)

- T.152 Fragment of a round-based vessel with carination and out-spread rim, shallow corrugations on the outer surface between the neck and the carination, core containing quartz particles, surfaces smoothened by a thin red slip. No. 1067, MHSR. II. ii. B (2).

T.152a Similar to above but with ridged carination. No. 1516, MHSR. II. ii. E (3).

T.152b Fragmentary piece of a vessel with concave neck and raised carination, out-turned rim, rest as above. No. 2114, MHSR. II. ii. D (4).

Globular Vessels

- T.153 Fragment of a vessel globular in shape, getting thinner towards base, clay mixed with profuse quartz, out-turned rim with a groove. No. 1339, MHSR. II. ii. C (3).

T.153a Fragmentary piece of a globular vessel with sides thicker than those of the above, rim out-turned and rounded, two shallow and broad grooves on the outer surface, surfaces covered by a thick orange slip. No. 1585, MHSR. II. ii. G (3).

THE RED POLISHED WARE (FIG. 89)

One of the most important luxury wares of Period VI is the Red Polished Ware. It occurs in small quantities and in a few very distinct forms. Such pottery has been extensively found in Western India, invariably associated with either the Kshatrappa or the late Satavahana layers, i.e. the early centuries of the Christian Era. This pottery is made of an extremely fine levigated clay and is burnt uniformly to a brick-red colour. The outer

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

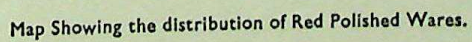
surface, which is probably due to the application of a very fine ferrous slip, gets a very smooth polish varying in colour from a lacquer red to dull brown. From the point of view of its very high and uniform firing and the treatment of the surface, it very closely resembles the Roman Samian ware and the other red wares of the Eastern Mediterranean area. Similarly there is a wide range of forms. The two sites which have yielded the largest number of forms are Amreli and Somnath in Saurashtra. A detailed comparison of the forms with those of the Roman Samian wares and other pottery referred to above, indicated a close affinity in technique, but only four forms were found to be identical. Another very important technical resemblance was noted from a few sherds found at Maheshwar. They definitely show that some of these were moulded and one can distinctly see the undulations and finger marks suggesting pressing on the inside of the vessel. The outer decorative motif consists of small barbs or pointed projections with a floral decoration—probably a creeper (?). (Fig. 89. and Pl. XVIIIa.)

One of the distinct Indian forms, which seems to be a slight variant of the high and narrow necked vases of the Mediterranean region, has been described, for convenience, as a narrow-necked sprinkler, with a very small opening. This is generally luted to the globular jug, and hence the cleavage occurs near the shoulder. Hence a large number of these semi-solid necks have been found with small fragments of its thin-walled body. Sometimes there is a narrow hole to control the flow of the liquid. Occasionally there is a spout with a shoulder at the base near the junction with the pot. As some of these spouts had a perforated screen, like the tea-pots, this shoulder facilitates such a function. In the course of his study, the writer noticed that one of the unmistakable forms of this ware, were the sprinklers and these shouldered spouts. Almost all the known forms have already been published by the writer.¹

About its chronology, one of the most important associations are either imported Roman ware and bullae, as at Nevasa; and Roman coins, as at Chandravalli and Nevasa. At Baroda was found a clay sealing with prancing horses and from this site was also recovered a bronze handle with the figure of *Eros*. From Kolhapur, a sculpture of Poseidon was recovered.^{1a} At a number of sites, this ware occurs in stratigraphically datable deposits with Kshatrapa and Satavahana antiquities in Western India and the Deccan

1. SUBBARAO, B., *Baroda through the Ages*, M.S. University Archaeology Series. 1. Baroda. 1953, Appendix. pp. 56-64.

1a. SANKALIA and DIKSHIT., *Excavations at Brahmapuri (Kolhapur)*, Poona. 1952.



POTTERY OF PERIOD VI

and those of Early Gupta in Northern India (See Hastinapur types—XV and XVI— Fig. 20,² —belonging to Period IV). However, at Rupar, these sprinklers have been placed in Period IV (200 B.C. to 600 A.D.) by Dr. Y. D. SHARMA.³ Here, it might be noted, his main chronological criterion was the N.B.P. and this has been put as Post-N.B.P. Similarly at Prakasha, THAPAR has put them in the period from 1st century B.C., but again on identical considerations.⁴ These are also illustrated by MARSHALL from his Taxila excavations, but in view of the nature of the excavations, the minor objects cannot be used for comparative chronology. Thus looking at the evidence from a large number of excavated sites, this pottery can be safely dated from about the 1st century A.D. to about the 5th or 6th century A.D.

Thus to sum up the evidence, we have reasonable grounds for assuming that as a result of the extensive commercial contact with the Mediterranean region, the technique of Roman Samian wares was successfully copied in Western India—Saurashtra in particular—where we get the largest number of sites as well as forms. Though most of these forms are Indian, their chronology, luxurious character, limited distribution and the comparatively poor quality of the other local wares, association of Roman coins and other antiquities, constitute too much of a coincidence to ignore this compromise.⁵ For example, in the Gangetic basin, we have very characteristic burnished red wares, but they are inferior in fabric as well as the treatment of the surface.

CODRINGTON has illustrated a number of vessels depicted in the paintings at Ajanta. It is very interesting to recall that a large number of high-necked vessels and other forms in the Red Polished Ware confirm the existence of those forms.

At Maheshvar, the recognizable forms are very few and hence only the distinct and known shapes are illustrated (Fig. 89). The rest are very small pieces :

No. 649. Top of a pot with a narrow neck with a flared flat-topped rim. On this flat surface there are grooves at either end. This shape has a wide distribution and at Somnath it was noticed that a handle was attached to this pot and it was luted to the top edge of the neck.

2. LAL, B.B., "Excavations at Hastinapura and other Explorations in the upper Ganga and Satlej Basins 1950-52" *Ancient India*, Nos. 10 & 11, 1954-55 p. 65.

3. SHARMA, Y. D., "Exploration of Historical sites" *Ancient India*, No. 9, New Delhi. 1953, Fig. 4. p. 125.

4. *Indian Archaeology*, 1954-55. p. 13.

5. SUBBARAO B., *The Personality of India*, p. 19.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- Nos. 642a, 814 and 806 : These are typical variants of the forms of sprinklers found all over the country. In some cases, however, there are air holes running through the neck to control the flow of the liquid.
- No. 1670 Fragment of a rim with flared and flattened top with a groove.
- No. 813a This is a typical shoulder portion of these narrow necked vessels. The neck and the body are luted here.
- No. 660 Spout with a beaded end and a small indistinct shoulder. This is very characteristic of the spouts in this ware.
- No. 654 This is one of the important fragments from the point of view of technique. On the shoulder there is a moulded decoration of a raised band and fragments of what looks like a creeper or a floral motif (?). The rest of the surface has small barbs or pointed projections. The inside surface shows typical finger marks and thumb depressions imprinted probably when this was moulded. Outside the vessel, they applied some protective clay which got burnt and peels off.
- No. 2563 This is another fragment of a similar vessel with two upraised moulded bands and barbs. This fragment is not well burnt and so has a dull brown surface.
- No. 753 A spout showing the same type of barbed decoration.

POTTERY OF PERIOD VII

(MUSLIM-MARATHA)

The pottery of the Muslim-Maratha period is marked by the disappearance of finer wares of earlier periods, the abundance of coarse red ware and the general decadence of ceramic industry. The only relieving feature of this monotony is the emergence of the glazed and celadon wares and the painted pottery. These three, however, are dealt with separately. Here only the coarse wares are studied.

Along with the decadence in fabric, the disappearance of typical shapes from the earlier periods in this phase is also remarkable. The pottery shapes are strictly utilitarian,—the storage jars and globular vessels abounding.

Coarse red and *coarse black* wares take a prominent place. The other fabrics comprise *slipped red* and *slipped tan*. The last occurs in negligible quantities.

The *black-and-red* which was picked up in mixed deposits of top layers of some trenches shows recurrence of *Types* 90, 90b, 90c, 90d and X of Period IV and *Type* 92h of Period V. These are, however, out of context.

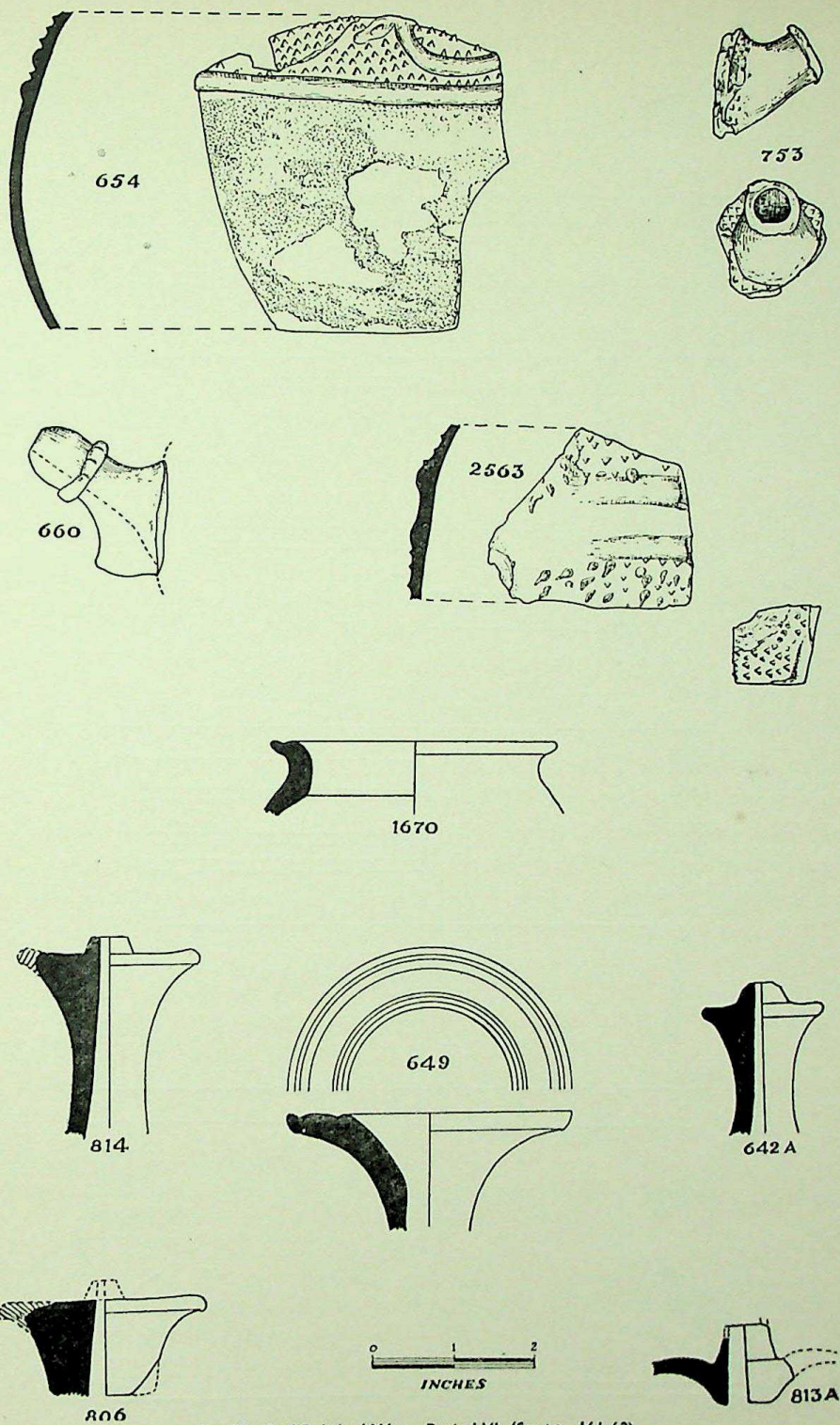


Fig. 89 Red Polished Ware. Period VI. (See pp. 161-62)

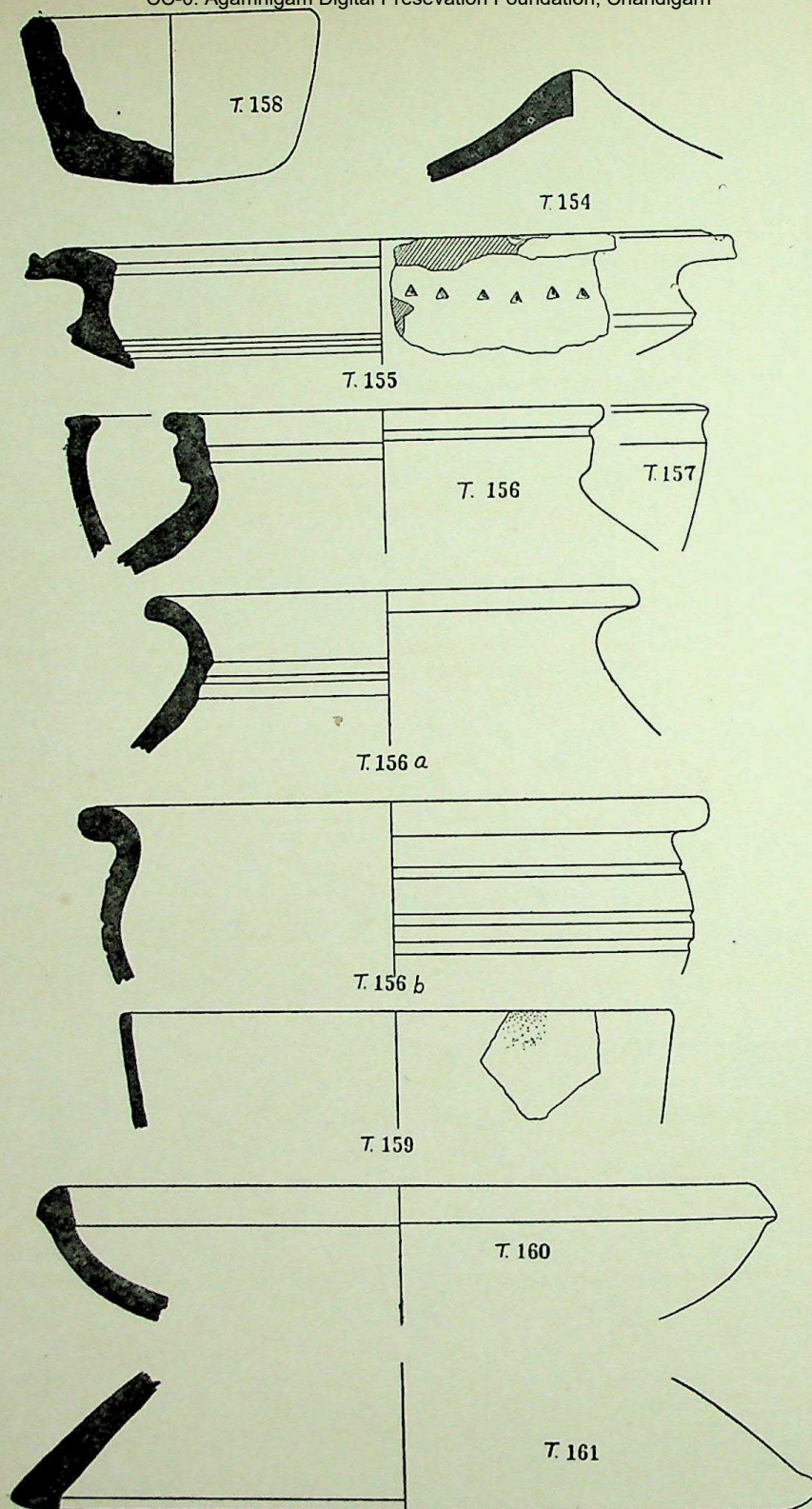


Fig. 90 Types 154-161 [3]

Coarse Black Ware (T. 154, Lid; T. 155, Carinated Pot; T. 156-156b, Globular Vessel; T. 157, Bowl)
 Coarse Red Ware (T. 158, Cup); Burnished Red Ware (T. 159, Bowl; T. 160, Dish); Grey Ware (T. 161, Lid)
 Period VII. (See p. 163)

POTTERY OF PERIOD VII

COARSE BLACK

(Fig. 90)

Lids

- T.154 Fragmentary lid with a nipple-top, surfaces porous and with straw marks, core porous. No. 2739, NVT. II. iii. C (2).

Carinated Pot

- T.155 Fragment of a vessel with out-turned rim having a groove on it, prominent carination and surfaces having a micaceous slip, core porous and black, decorative incisions above the carination on the outer surface. No. 1033, MHSR. II. ii. A (1).

Globular Vessels

- T.156 Fragment of probably a globular vessel having a rounded rim with a band below it, surfaces showing traces of a thin black slip, core porous and black. No. 20122, MHSR. II. ii. V (1).
- T.156a Rim and shoulder piece of a globular vessel with rounded, out-turned rim, surface partially burnished at the shoulder, core porous, and black. No. 1027, MHSR. II. ii. B (1).
- T.156b Piece of a small pot with bulging sides, inner surface coarse red, outer coarse black (inverted firing technique), beaded rim, core porous and brown-black. No. 20003, NVT. III. iv. (1).

Bowl

- T.157 Fragment of a medium-thick bowl with slightly flaring sides, edge beaded out on both sides, surfaces porous and with straw marks, core porous. No. 36c, MHSR. V. i. A (1).

COARSE RED

(Fig. 90)

Cup

- T.158 Half of a small cup with thick sides tapering to a flat top, flat base, surfaces coarse red and porous. No. 12600, NVT. II. iii. C (1).

BURNISHED RED

(Fig. 90)

Bowl

- T.159 Fragment of a deep bowl with slightly flaring and thin sides, surfaces red-slipped and burnished, core black flanked by brown red. No. 422, NVT. I. i. E (1).

Dish

- T.160 Fragment of a shallow broad dish with bevelled edge slightly beaded internally, surfaces having traces of a red slip, core gritty black flanked by thin red on either side. No. 360, MHSR. V. i. B (1).

Lid

- T.161 Fragment of a lid possibly with a tapering top, slightly beaded edge, grey surface having dull red wash, core gritty, porous and dull black. No. 35, MHSR. V. i. A (1).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

THICK COARSE RED WARE

(Fig. 91)

Storage Jars

- T.162 Fragment of the rim of a storage jar with constricted neck, beaded rim, core gritty brown, surfaces coarse red. No. 12796, NVT. II. iii. D (2).
T.162a Similar to above but smaller, thinner and with out-turned rounded lip. No. 11604, NVT. I. ii. C (1).

TAN WARE

(Fig. 91)

Dish

- T.163 Fragment of a small dish with sagging base, beaked-in edge, surfaces having a burnished, thick, tan slip, core having quartz particles but compact brown. No. 187, NVT. I. i. G (1).

Globular Vessel

- T.164 Fragment of probably a globular vessel with constricted neck, corrugated flat edge, outer surface and edge having a burnished tan slip, core compact brown. No. 1030, MHSR. II. ii. A (1).

BLACK-AND-RED

(Fig. 91)

Lid

- T.165 Fragment of a small lid with a lug on the under surface, top flat and black burnished, core black and porous. No. 445, NVT. I. i. E (1).

Vessel with Constricted Neck

- T.166 Fragment of the flaring rim having a flat top of a vessel with constricted neck, body-shape unknown, surface black-slipped and burnished, core compact and black. No. 20372A, NVT. III. iv. D (1).

INSCRIBED SHERDS

Six sherds with Brāhmī letters inscribed on their outer surface were found ; 3 each from Navdatoli and Maheshvar.

In all the cases, the letters were inscribed only after the surfaces of the pot were slipped and burnished. Hence the incision has cut through the slip and gone right to the original surface, as in graffiti.

The sherds are of a red ware, some coarse and most red-slipped. Since the sherds are too fragmentary, it is not possible to say to what part of the vessels they belonged. However, it may be noted that thick parts of the vessel were selected for the inscription.

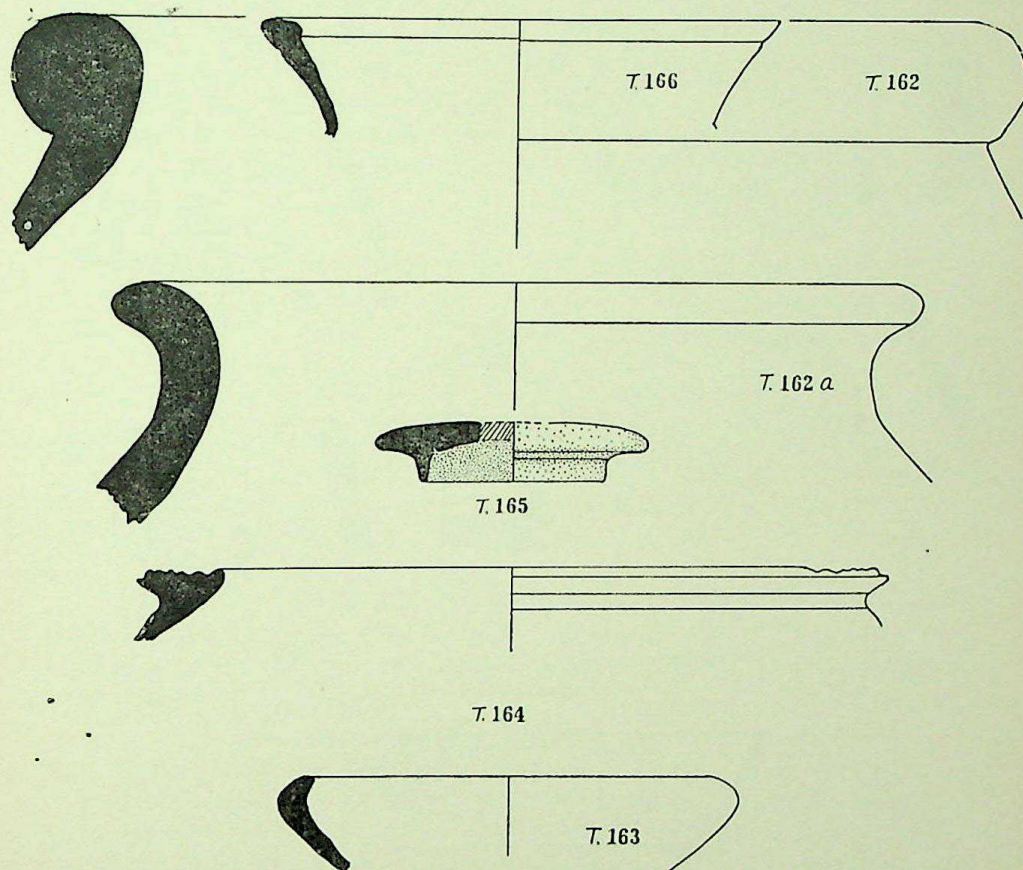


Fig. 91 Types 162-166 [$\frac{1}{2}$]
 Coarse Red Ware (T. 162-162a, Storage Jars). Tan Ware (T. 163, Dish; T. 164, Globular Vessel)
 Black-and-Red Ware (T. 165 Lid; T. 166, Vessel with Constricted Neck). Period VII. (See p. 164)

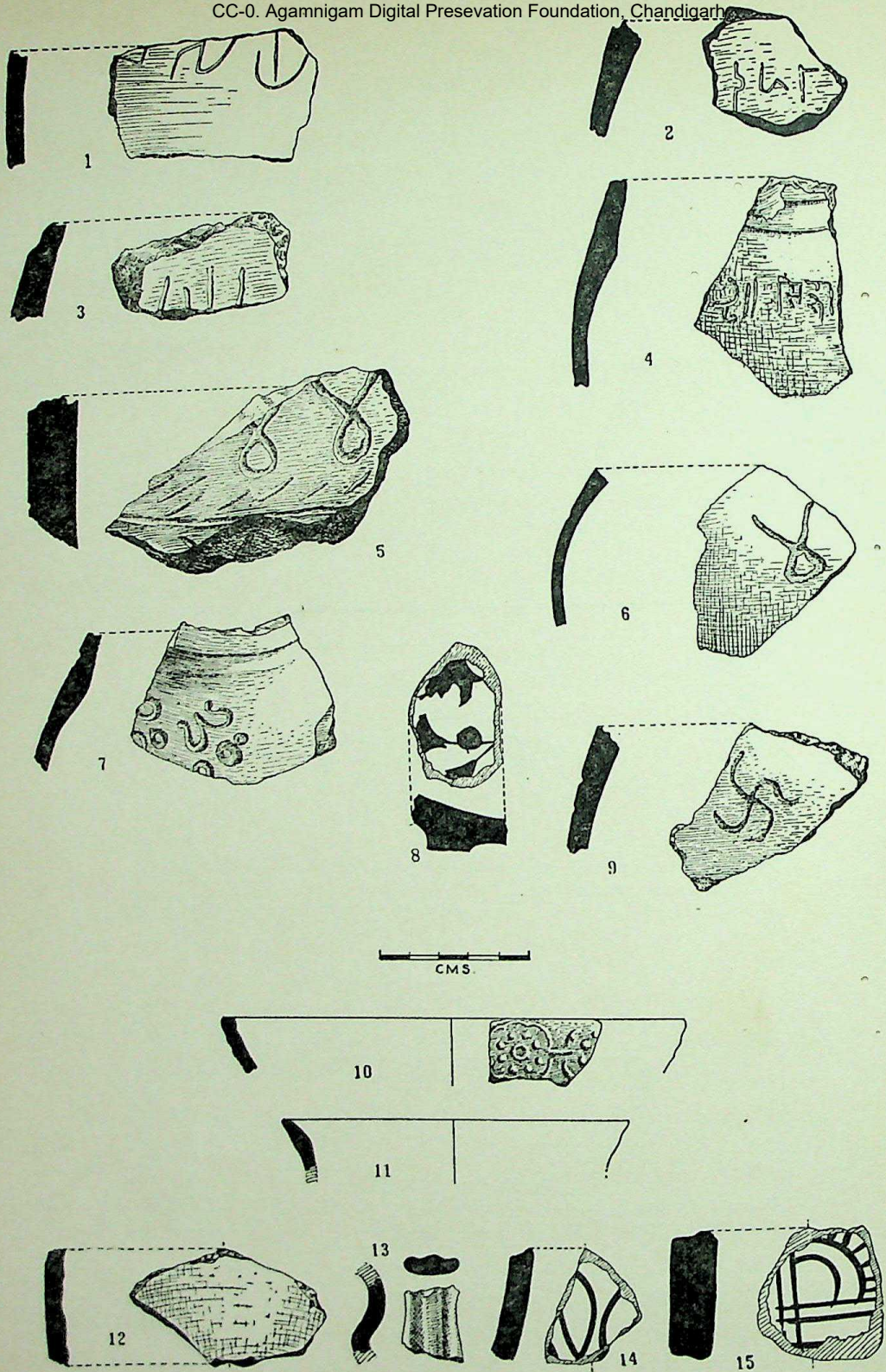


Fig. 92 Inscribed sherds (Nos. 1-4); Sherds with symbols(Nos. 5, 6, 7, 9); Glazed Ware (Nos. 8, 10-15). (See pp. 164-69)

POTTERY OF PERIOD VII

These potsherds by themselves are not of a distinctly datable ware like the N.B.P. But the palaeography is an important factor and hence they are illustrated and described below. The former confirms the dating of layers.

Of the three sherds found at Navdatoli, Nos. 4600 and 4599 both coming from layer 2 of Tr. IV on Md. III are important. The former, illustrated in Fig. 92, No. 2, is a fragment of a red-slipped pot burnished only on the outer surface. The letters, inscribed with a sharp pointed instrument are *da*, *ha*, *rā*. The meaning of this is not possible to ascertain. However, the roundness of the letters especially of '*da*' and '*ha*' and their style of writing bears a close resemblance to the letters from the Aśokan edicts, more particularly to the Girnar Rock edict,¹ and can thus be ascribed to the 3rd century B.C.

Similar is the case of sherd No. 4599. It bears the letters '*sa*' and '*ya*' with traces of some letter preceding '*sa*'. Here the letters are not stumpy as are found in later periods. The stem of '*sa*' is long and the loops rounded. The '*ya*' has also a well-defined, higher stem which has a tendency to shorten in the Brāhmī of the early centuries of the Christian era. As such, this sherd seems to reflect the palaeography of the period before the Christian era, and may well go to the Mauryan period. Moreover, both these sherds have been found in the same layers, though they are not parts of a single pot. (Fig. 92, No. 1)

Of the three sherds from Maheshvar, one is from the surface. No. 598, MHSR II, Tr. II, G (4), illustrated in Fig. 92, No. 4, is the fragment of a red-slipped vessel with a gritty core. The outer surface bears the following letters:

Om siddhā

The form of '*Om*' is peculiar, and though the layer in which it is found has to be dated to C.200-500 A.D. on other evidence, the letters are definitely late. For instance, similar '*Om*' cannot be traced earlier than 9-10th century A.D. in which it occurs in some Pratihāra records.² The well-developed Devanāgarī '*si*' and the '*ddhā*' are typical of a period later than the 10th century A.D. It is, therefore, certain that the sherd is an intrusion in layers of an earlier period.

1. SIRCAR, D. C., *Select Inscriptions*, (1942), pls. IV & V.

2. See OJHA, G. S., *Prācīna Bhāratīya Lipimālā*, Charts, 23 and 24.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Opposite is the case of No. 20169, MHSR. II. ii. V(5). It is a piece of a thick-sided vessel with gritty core and a coarse inner surface, the outer surface having a thick red slip pierced through by a sharp point. Though the lower portion of the letters is not completely extant, they may be read as 'ra' 'ya'. The length of the stems of these letters and the roundness of the bottom of 'ya' assign the script to a century or so before the Christian era, (Fig. 92, No. 3).

Sherd No. 3 which comes from surface has not been illustrated. It bears an incision similar to Brāhmī 'pa'. That from Navdatoli is too fragmentary. It bears a Brāhmī 'pa' like incision with a 2 mm. broad point. It is doubtful whether it was drawn to be a letter.

SHERDS WITH SYMBOLS

The sherds with symbols are not many and may be divided into three groups:

- (a) Those with the *svastika* mark,
- (b) Those having the 'ma' letter on it and
- (c) Those with Buddhist religious symbol like the 'triratna'.

Sherds with Svastika marks

Three sherds with the *svastika* mark incised on them were found. These sherds, all coming from Maheshvar, Tr. II, were picked up in layers 12, 11 and 10, i.e. the lowermost layers of Period V.

The peculiarity of the *svastika* symbol is noteworthy from two points. Firstly, the symbol seems to have been incised with a point 2 or 3 mms. in thickness, before the surface of the pot was slipped and burnished. This is evident from the fact that the slip has entered all the depressed outline of the *svastika*. Secondly, in the case of all the three sherds (Nos. 913, 913a, and 941) the *svastika* is with rounded arms.

In this case, it is to be further noted that layer 13 of the same trench at Maheshvar had yielded a glass seal with the seal of a *svastika* with rounded arms.¹ This seal could be assigned to C.400-100 B.C. on the strength of its association with punch-marked coins. DURGA PRASAD has illustrated² a similar type of *svastika* occurring on some early punch-marked coins of

1. See Section on 'Glass objects', p. 220.

2. *Numismatic Supplement*, No. XLV, pl. XXIII, No. 105.

POTTERY OF PERIOD VII

silver. A study of the forms of the *svastika* from different caves from the Deccan and elsewhere shows that the *svastika* with rounded arms occurs mostly in the pre-Christian period.³ The form under study, thus, is of datable value since it represents an early form. Moreover, since they come from the lowermost layers these layers can be assigned to a century or two before the Christian era.

The illustrated specimen (Fig. 92, No. 9) is probably the fragment of a globular vessel, with the inner surface coarse grey-brown, and gritty core having two distinct portions—brown and black—showing that the heat did not penetrate the entire core. The outer surface is red-slipped and partially burnished, thickness 7 mms. No. 913a, MHSR II, Tr. II, A(10), Depth 24' 3", Period V.

Sherds with 'ma'-like symbol

Fourteen sherds, all belonging to either the 8th or the 9th layer of Tr. II, (i.e. Period V) at Maheshvar form a group by themselves inasmuch as they all bear the Brāhmī-*ma* (8)-like symbol on them.

The symbol is scratched on the outer body of a pot before the slip was applied, or as in some cases, it was scratched through the slipped surface. All these sherds are of a coarse fabric though they differ in thickness. Their inner surface is invariably coarse and unslipped, while the outer one has a slip the colour of which varies between bright red, deep chocolate and coarse pale red.

Regarding the palaeography of the letter '*ma*', it may be noted that it does not much help the dating. For instance, the letter '*ma*' with rounded loop and that with an angular one are found side by side. It is likely that the symbol possibly degenerated into a mere decorative design as some sherds (No. 2797 etc.) bear these in a horizontal series, close to one another.

The illustrated specimens are as follows : (Fig. 92)

- No. 5 Fragment of a thick vessel, (16 mms.), with a smooth interior, gritty core, outer surface with traces of a chocolate slip, horizontal leaf design surmounted by a pair of *ma*-symbol with rounded loops and slant arms. No. 2797. MHSR. II. ii. B (8).
- No. 6 Fragment of a globular vessel, 5 mms. thick, inner surface coarse red, outer with a dusty red slip, symbol with an angular loop. No. 2828, MHSR. II. ii. B (9).

3. SANKALIA and DEO, *Excavations at Nasik and Jorwe*, pl. XVII, No. 5; pp. 80-81. The *Svastika* occurring on the Grey Ware at Hastināpur (*Anc. Ind.*, Nos. 10 & 11, p. 67), and at Shahi Tump has rounded arms. [STEIN. A., *MAI*, 43 (1931), pis. XV-XVI.]

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Sherds with 'Triratna'-symbol

Two sherds, Nos. 2537 and 1561, were picked up from layers 5 and 3 respectively of Tr. II at Maheshvar.

Both these are of coarse brown fabric with porous core.

No. 2537, illustrated in Fig. 92, No. 7, is a fragment of probably a globular vessel with the inner surface porous, the outer with a dusty brown slip on which are stamped *triratnas*. One of these is complete, while the other is fragmentary.

The other sherd, not illustrated, has the same design, but it is incised shallow.

GLAZED WARE

All the nineteen sherds of this ware were found in Tr. II at Maheshvar; none at Navdatoli.

The layerwise distribution shows that four came from the topmost Muslim-Maratha layer, while layers 2,3,6,7 and 8 yielded four, one, seven, two and one sherds respectively. This is revealing inasmuch as the antiquity of the glazed ware at Maheshvar can be pushed back to the early centuries of the Christian era.

One thing, however, is remarkable. The early specimens can easily be distinguished from the Muslim-Maratha ones. These, ascribable to C. 100 to 500 A.D. have a close affinity with the Roman glazed ware characterised by a smooth glaze of golden or silvery lustre, angular cracks of the glaze and a constant thickness of the sherd. Sherds of this Period (VI) at Maheshvar can be grouped into two fabrics. The first shows the use of well-levigated pure clay typical of the Roman or Red Polished ware. The core shows a uniform firing which has reduced the clay to yellow-brown colour and compactness. The other fabric shows the addition of a considerable quantity of kaolin. The glazes in this are blotchy—greenish or yellowish. Sometimes only one surface is found to have been glazed in this fabric unlike the first. In both these, however, the glaze is thick and evenly spread with the result that the surfaces are uniformly smooth.

As compared to the above, sherds from the Muslim period present a degenerated technique. The glazed sherds are coarse and thick and the

POTTERY OF PERIOD VII

application of glaze being thin, the surfaces are rough and uneven. The core of the glazed sherds is full of quartz powder which wears out at the slightest touch. The technique adopted was that the required design in various colours was drawn and over that a thin coat of liquid glass was spread. This is evident from a sherd (No. 336) which shows that the entire surface has a uniform painted design but then only some area of the sherd has been glazed over. The glaze is full of bubbles and cracks.

The shapes in the early glazed ware are a rimless bowl with flaring sides having an embossed rosette design on the outer surface and a grooved handle. The Muslim glazed ware has the base fragment of a bowl with ringed base, a tile and a pot with flaring edge.

Of these, only the following are illustrated. (Fig. 92)

- No. 8 Fragment of the ringed base of probably a bowl with the core made of some kaolin and powdered quartz, the inner surface having an emerald green glaze over a design of flowers and creepers in jet black, surfaces rough; part of the outer surface having emerald green glaze. No. 335, MHSR. II. ii. F (1). Period VII.
- No. 10 Fragment of a rimless bowl with a flat edge, flaring sides, compact red-brown core, original surfaces coarse red over which is a thin pale turquoise blue glaze; on the outer surface stamped design of a circle surrounded by eight dots in relief; thickness 6 mms. No. 804, MHSR. II. ii. D (6). Period VI.
- No. 11 Fragment of the outgoing, tapering and rounded edge of a small pot with its core brittle and quartz, both the surfaces have a bright turquoise blue glaze which is rough; thickness 5.5 mms. No. 230, MHSR. II. ii. C (1). Period VII.
- No. 12 Fragment, 7 mms. thick, core compact and brown, outer surface having angular cracks to the glaze which is turquoise blue with a brilliant copper red sheen in some patches; the inner surface has a series of grooves horizontally and a silvery white glaze; thickness 5 mms. No. 2730, MHSR. II. ii. C (6). Period VI.
- No. 13 Part of a handle glazed all over with turquoise green glaze, outer surface has two grooves; thickness 4.5 mms. No. 714, MHSR. II. ii. A (6). Period VI.
- No. 14 Fragment, core full of quartz powder, one of the surfaces has a petal-like design the outline of which is drawn in dull black and the interior filled in with turquoise blue, glaze applied only to some portion, the rest of the area has only the painting; thickness 8 mms. No. 336, MHSR. II. ii. F (1). Period VII.
- No. 15 Fragment of probably a tile with the core full of quartz powder, under surface smooth, the upper having a dusty white glaze covering a design in chocolate and blue of the rising sun, surface rough; thickness 15 mms. No. 221, MHSR. II. ii. F (1). Period VII.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

CELADON WARE

The evidence pertaining to this ware was meagre. Two sherds from Maheshvar and one from Navdatoli comprised the entire collection.

The sherd from NVT comes from layer 2 of Tr. III and can thus be put to the Muslim, i.e. VIIth Period. The MHSR pieces come from layer 2 of Tr. II, and thus belong to the topmost layer of Period VI. These, however, may be taken to be intrusions and can be put to the last period.

All the three sherds show a uniform, compact, dusty white core, though the thicknesses vary; these range between 12 and 3 mms.

The sherds are in fragmentary condition and it is not possible to ascertain the exact shapes of the entire receptacles of which they form a part. However, No. 919 (MHSR. II. ii. B-2) seems to have been the thick base of a dish and is pure white in appearance. No. 236 (MHSR. II. ii. E-2) is 3 mms. in thickness with a solid white core, and the concave section shows that it was a part of probably a cup with convex sides. The third sherd, No. 2050 (NVT. II. ii. C-2) is similar to No. 236 in fabric but is possibly the base portion of a cup.

None of these is illustrated.

DECORATED SHERDS

A wide range of incised, embossed and applique designs is noticeable on several sherds both at Navdatoli and Maheshvar. These are described and illustrated in suitable groups below.

Period IV

The decorations of this period consist either of incisions which penetrate the slip, if any, or embossed designs on an applique band.

The incisions do not show any disciplined plan of decorations, so much so, that in many cases, it seems doubtful whether the incisions were drawn deliberately. These are mainly linear.

Sherds with Incised Decoration

Fig. 93, No. 1 Fragment of the base of a dish in black-and-red, having one vertical and two oblique lines, one on either side of the vertical scratching. No. 1649, MHSR. II. ii. H (6).

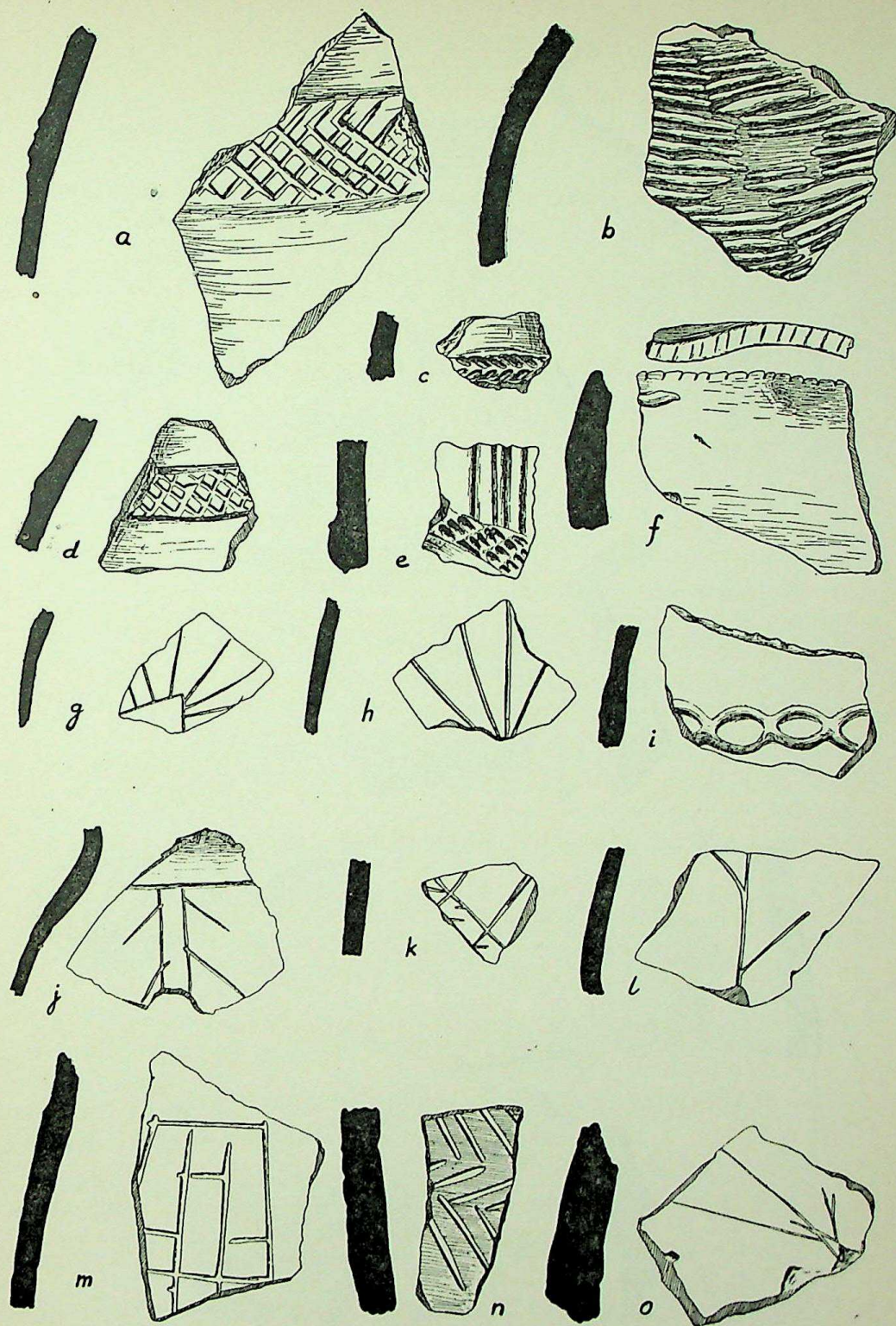


Fig. 93 Decorated Sherds [3]

Incised (Nos. g, h, j, k, m, n, o, p) Embossed (Nos. a, d, e, i); Miscellaneous (Nos. b, c, f) Period IV. See pp. 170-71

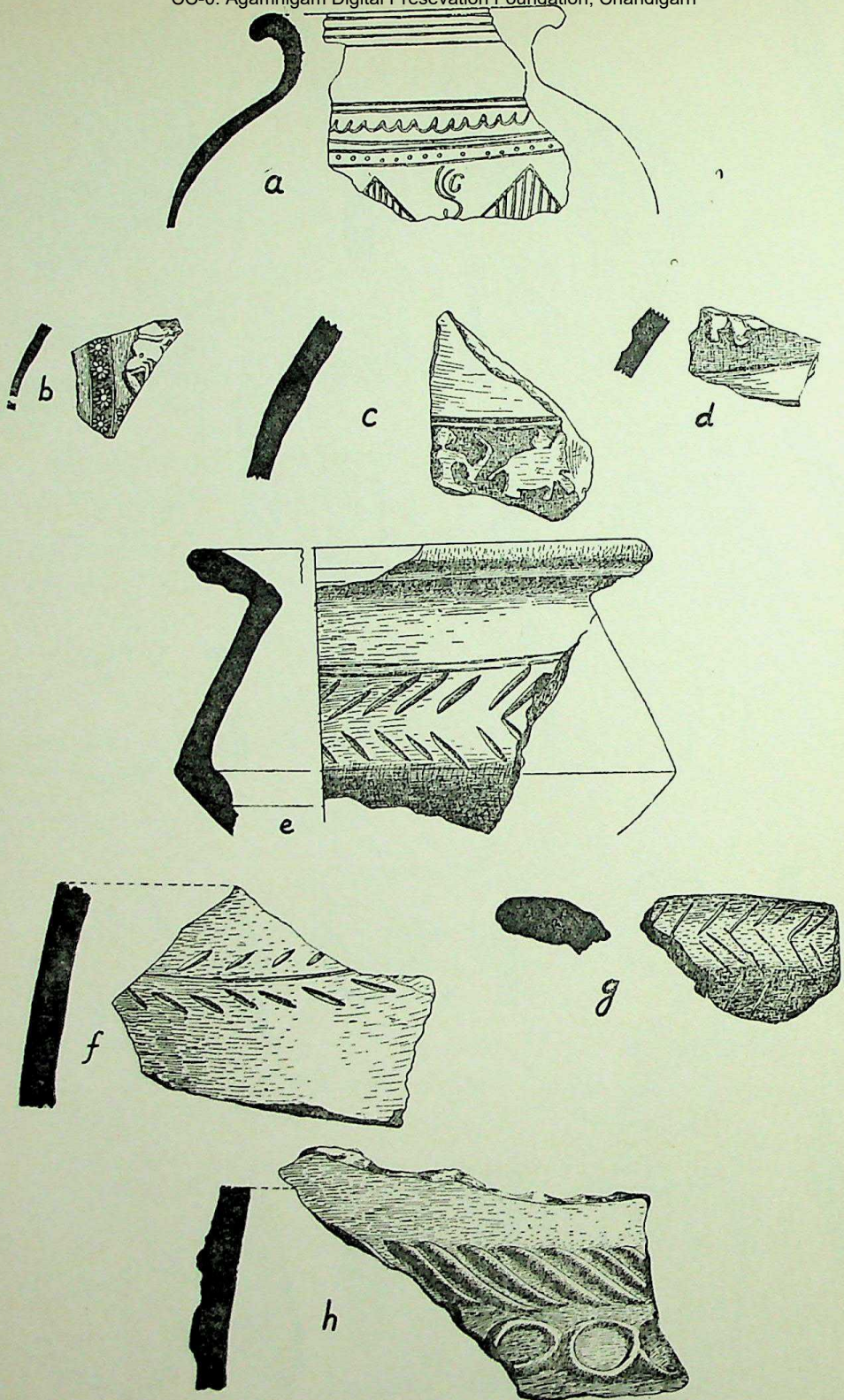


Fig. 94 Decorated Sherds [$\frac{1}{2}$]
Period V (Nos. e, f, g, h); Period VI (Nos. a, b, c, d). See pp. 171-73

POTTERY OF PERIOD VII

- No. o Fragment of a thick (19 mms.) vessel with a thick grey-black slip on the outer surface, a pair of scratched lines crossing each other and flanked by an oblique line on one side. No. 2018, NVT. I. i. F (2).
- No. j Fragment of a globular vessel with red-slipped and burnished outer surface scratched with a pair of vertical lines. These are cut by a pair of oblique lines on either side. No. 20119, NVT. III. iv. A-B (2).
- No. h Fragment of the base of a black-and-red dish having deep radiating lines scratched on the outer surface. No. 88, MHSR. V. i. H (2).
- No. k Similar to No. h above, but with a scratched design of empty rectangles. No. 2871, MHSR. V. i. H (2).
- Fig. 93, No. m Fragment of a vessel with probably an elongated body, the outer surface of which has a thick red slip and a scratched design resembling a maze with blind alleys. No. 21336, NVT. III. iv. K (2).
- No. n A thick sherd with a broken zigzag design impressed with some small contrivance. No. 3459, MHSR. II. ii. A (12).
- No. g Fragmentary sherd of the base of a black-and-red ware with irregularly radiating lines on the outer surface. No. 20697, NVT. I. i. D (2).

Embossed Designs on Applique-band

- Fig. 93, No. a Fragment of a coarse red ware with solid diamonds embossed in relief. No. 20229, MHSR. II. ii. V (2).
- No. d A sherd having a black grey slip with a design similar to that on No. 20229 but more neat. No. 20223, MHSR. II. ii. V (8).
- No. e A fragment of a coarse red ware with applique design consisting of concave depressions flanked by oblique ridges. No. 3503, MHSR. II. ii. A (18).
- No. i A sherd with the outer surface having orange slip and finger-tip design. No. 20210, NVT. III. iv. B (3).

Other Decorations

- Fig. 93, No. b A coarse red sherd with embossed ripple design. No. 2155, NVT. I. i. G (2).
- No. f A sherd with coarse brown-grey surface and short incised horizontal lines on the edge. No. 20733, NVT. III. iv. D (3).
- No. c A sherd with similar design to that on No. 'n' above but the design is scratched and not impressed. No. 21186, NVT. III. iv. J (3).

Period V

This period was found to be poor in decorations on pottery. The number of such sherds was very much less than that of the previous and succeeding periods. The decorations consisted mainly of incisions, though one sherd had a finger-tip design on an applique band.

- Fig. 94, No. o Fragment of a carinated vessel, red-slipped outside, with the incised decoration consisting of unconnected arms of chevron. No. 3064, MHSR. II. ii. A (11).
- No. f Fragment, thick, red-slipped, incised leaf-like design. No. 2822, MHSR. II. ii. B (8).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- No. g Rim fragment, coarse red ware, incised vertical zigzags. No. 2727, MHSR. V. i. H (8).
 No. h Fragment, thick, coarse red, rope and finger-tip design. No. 2783, MHSR. I. i. A (6).

Period VI

This period is marked by a general increase in the decoration of pottery. A wide range of decorations was employed. The remarkable feature is that most of the decorations are on a coarse area of the pot so that burnishing need not affect the design. It is therefore reasonable to assume that mechanical burnishing was done only after the decoration was executed.

The decorations like the finger-tip design, creeper design and an incised design on an applique band which are found on the pottery of Period IV, are also found in this period.

(a) Applique Technique

- Fig. 95, No. a Fragment, thick, coarse red, storage jar, outer surface having an applique band with a design produced by pressing two fingertips close to each other. No. 1160a, MHSR. II. ii. C (3).
 No. b Fragment, small, red-slipped globular pot, unslipped portion having two rows of rope design in relief. No. 1160, MHSR. II. ii. F (2).
 Fig. 96, No. k Fragment, thick, coarse black pot with irregular rectangles left in relief by cutting the unnecessary portion of the applique clay band. No. 20102, MHSR. II. ii. X (2).

(b) Stamped Designs

- Fig. 96, No. i Small fragment, coarse red, outer surface with a stamped design resembling a tortoise shell. No. 2136, MHSR. II. ii. D (6).
 No. l Fragment, coarse red pot with a spongy design. No. 2269, MHSR. II. ii. D (6).
 No. h Fragment, coarse red, globular vessel, daisy flower-like design embossed on the outer surface. No. 2749, MHSR. II. ii. D (6).
 No. d Fragment, small vessel with the design of a flower with four petals extant, a horizontal line below, and dots—all in relief due to that portion of the pot being pressed from inside into a negative mould as evidenced by the finger depression on the inner surface. No. 1754, MHSR. II. ii. A (4).
 No. a Fragment, coarse red vessel, floral design possibly stamped. No. 2231. MHSR. II. ii. E (4).
 No. b Small piece, coarse red, outer surface having a stamped wheel with dots in between its eight petals; uniformity of the design shows the use of one and the same stamp. No. 2030A, MHSR. II. ii. B (6).
 No. e Fragment, coarse red, some portion with a light red wash, outer surface having concentric circles in relief. No. 1893, MHSR. II. ii. B (4).
 No. c Fragment, red-slipped outer surface, stamped flowery decoration. No. 1122, MHSR. II. ii. C (2).

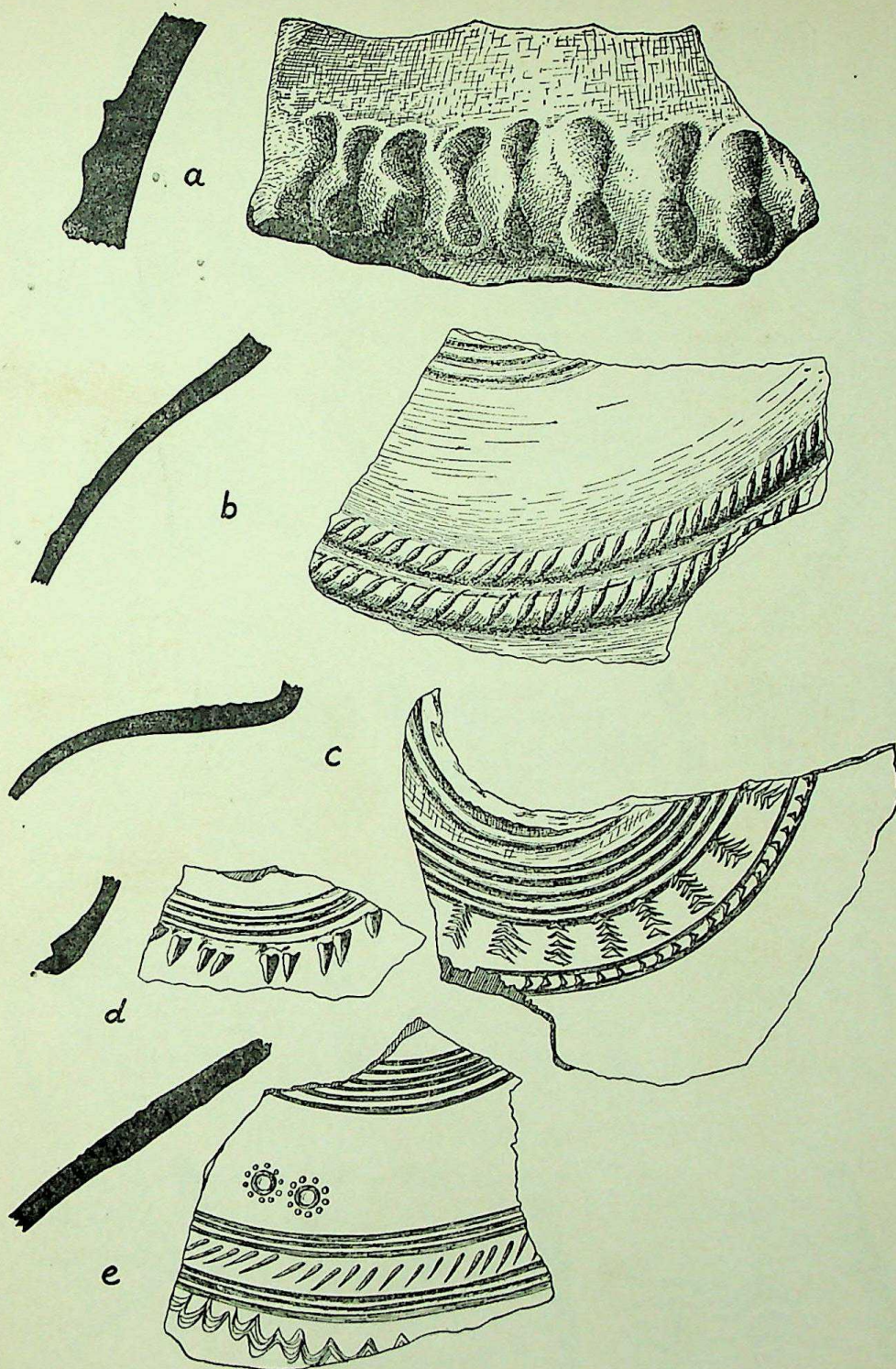


Fig. 95 Decorated Sherds [$\frac{1}{2}$]
Applique (Nos. a, b); Incised (Nos. c, d, e) Period VI. (See pp. 172-73)

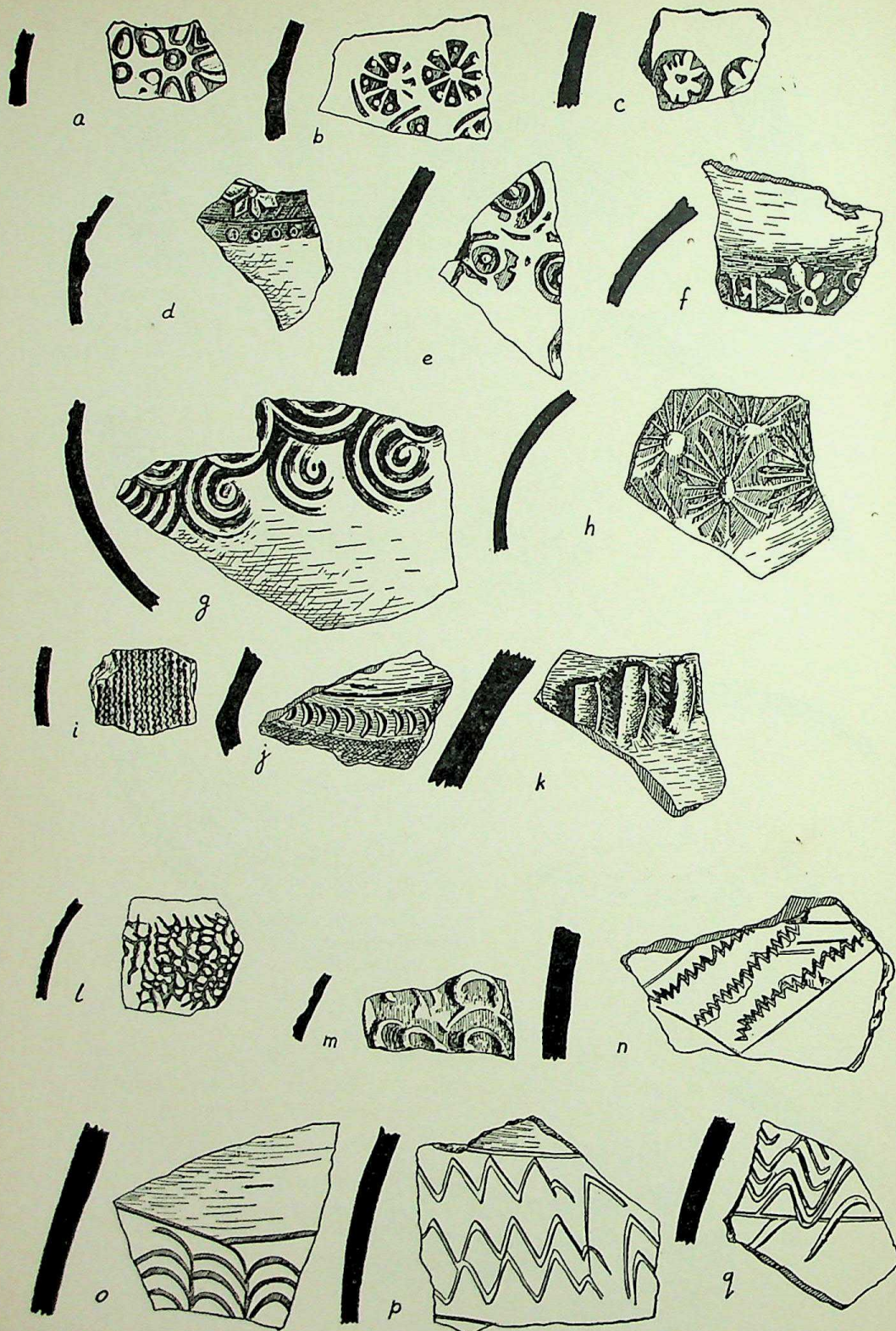


Fig. 96 Decorated Sherds [1]

Stamped (Nos. a-i, m, t); Incised (Nos. j, o-q); Graffito (No. n) Period VI. (See pp. 172-73)

POTTERY OF PERIOD VII

- No. f Fragment, red-slipped, outer surface having stamped long petals, the latter stamped before burnishing. No. 1695, MHSR. II. ii. A (4).
 No. g Fragment, red-slipped, globular vessel, spiral design in relief. No. 2538, MHSR. II. ii. B (5).
 No. m Fragment, coarse red, outer surface embossed with incomplete and partially concentric circles, technique as of No. 1754. No. 1420, MHSR. II. ii. D (6).

(e) Incised Designs

- Fig. 95. No. c Fragment, globular vessel, lower surface red-slipped, upper unslipped and having incised vertical row of chevrons looking like a pine tree; above it a group of grooves; below, horizontally triangular incisions. No. 1147, MHSR. II. ii. E (2).
 No. e Fragment, black-slipped and burnished globular vessel, incisions consisting of festoons, slanting lines and sharply incised rosette pair. No. 2001, MHSR. II. ii. C (4).
 Fig. 96. No. o Fragment, partially red-slipped, shallow group of festoons incised. No. 2153, MHSR. II. ii. B (3).
 No. p Fragment, coarse red, partially slipped, a group of triple zigzag incisions on the coarse area. No. 1302, MHSR. II. ii. B (3).
 Fig. 95. No. d Fragment, red-slipped, decoration of incised triangles made with a flat triangular point. No. 1903, MHSR. II. ii. D (4).
 No. q Fragment, red-slipped, group of wavy lines on unslipped region. No. 2157, MHSR. II. ii. D (4).
 No. j Carinated vessel-fragment, coarse black-and-red, nail-incised design on the outer surface. No. 1438, MHSR. II. ii. E (7).
 Fig. 94. No. a Half of a spherical vessel with a short neck, out-turned undercut rim, coarse brown surfaces; outer surface having incised design comprising festoons, dots and bigger festoons with incised lines. No. 1282, MHSR. II. ii. B (3).

(d) Graffito

- Fig. 96. No. n Fragment, red-slipped and burnished, three groups of curved and zigzag lines within a parallelogram. No. 1595, MHSR. II. ii. G (3).

(e) Animal Figures in Relief

- Fig. 94. No. b A fragment, coarse brown ware, inner surface black, outer having a design in relief of an elephant, bounded on the upper side by four flowers; traces of another flower to the left of the elephant. No. 70000, MHSR. II. ii. E (3).
 No. d Fragment, some portion with a deep tan slip, on the unslipped surface legs of some animal in relief. No. 70000a, MHSR. II. ii. G (4).
 No. c Fragment, partially red-slipped and burnished, on the unslipped portion is embossed an elephant walking right, on it rides a man; behind the elephant, a man with some curved weapon (whip or plough?) in his left hand. No. 650, MHSR. II. ii. G (4).

Muslim-Maratha Period (VII)

The designs repeated in this period are rope, finger-tip, incised lattice, incised chevrons, incised triangles, incised slanting lines, shallow festoons and zigzags.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

The others are as follows :

- Fig. 97. No. a Fragment, coarse black ware, outer surface with vertical rows of deep incised holes made possibly by an instrument having a row of sharp points. No. 1029, MHSR. II. ii. A (1).
- No. d Fragment, black ware, partially black-slipped, on the unburnished surface triangular and concave (possible nail) incisions. No. 20117, MHSR. II. ii. V (1).
- No. c Fragment, coarse red, design of deeply incised slanting lines enclosing in between them horizontal nail impressions. No. 21117, NVT. III. iv. J (1).
- No. b Fragment, red wash, outer surface with a stamped pair of wheels with eight spokes. Cf. No. 2330A, of Period VI. No. 1023A, MHSR. II. ii. B (1).

Graffito

- Fig. 97. No. e Base of a black-and-red bowl with sagging base, inner surface black-slipped and burnished, outer red; on the base a biconvex incision radiating straight long lines on both its sides. Sherd belonging to an earlier period. No. 20390, NVT. III. iv. D (1).

PAINTED WARES OF HISTORIC PERIODS (IV-VII)

The painted wares of the historical periods are distinctly different from those of the proto-historic period. In the former, the painting, as will be seen below, takes a crude form.

No painted sherds came from the layers of Period IV. But the number of these increases remarkably in the successive periods.

Period V

Only four sherds were found in the layers 10 and 11 of Tr. II at Maheshwar. Though from these it may seem that painted pottery was not much in vogue during this period, it is more likely that one may expect a fairly reasonable amount of painted sherds in extensive digging.

These sherds show that slipped and burnished as well as coarse surfaces were chosen for painting. The colours employed were shades of red, white and grey-black. Especially very thick white paint was used for painting.

The illustrated specimens are as under.

- Fig. 98. No. b Fragment of a coarse red ware with a loop and festoon design in dark chocolate red on a pinkish red surface. No. 2859, MHSR. II. ii. A(10).
- No. a Fragment of probably a globular pot, red-slipped and burnished on the outer surface which bears an empty sun-design in dirty white. No. 2682, MHSR. II. ii. A(10).

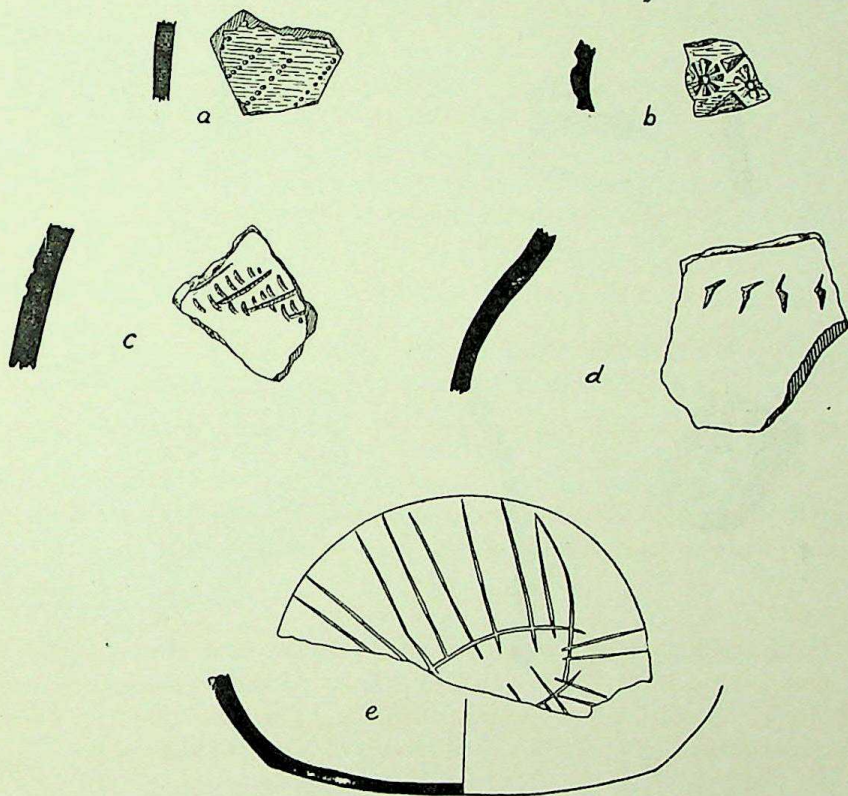


Fig. 97 Decorated Sherds [1]
Period VII. (See p. 174)

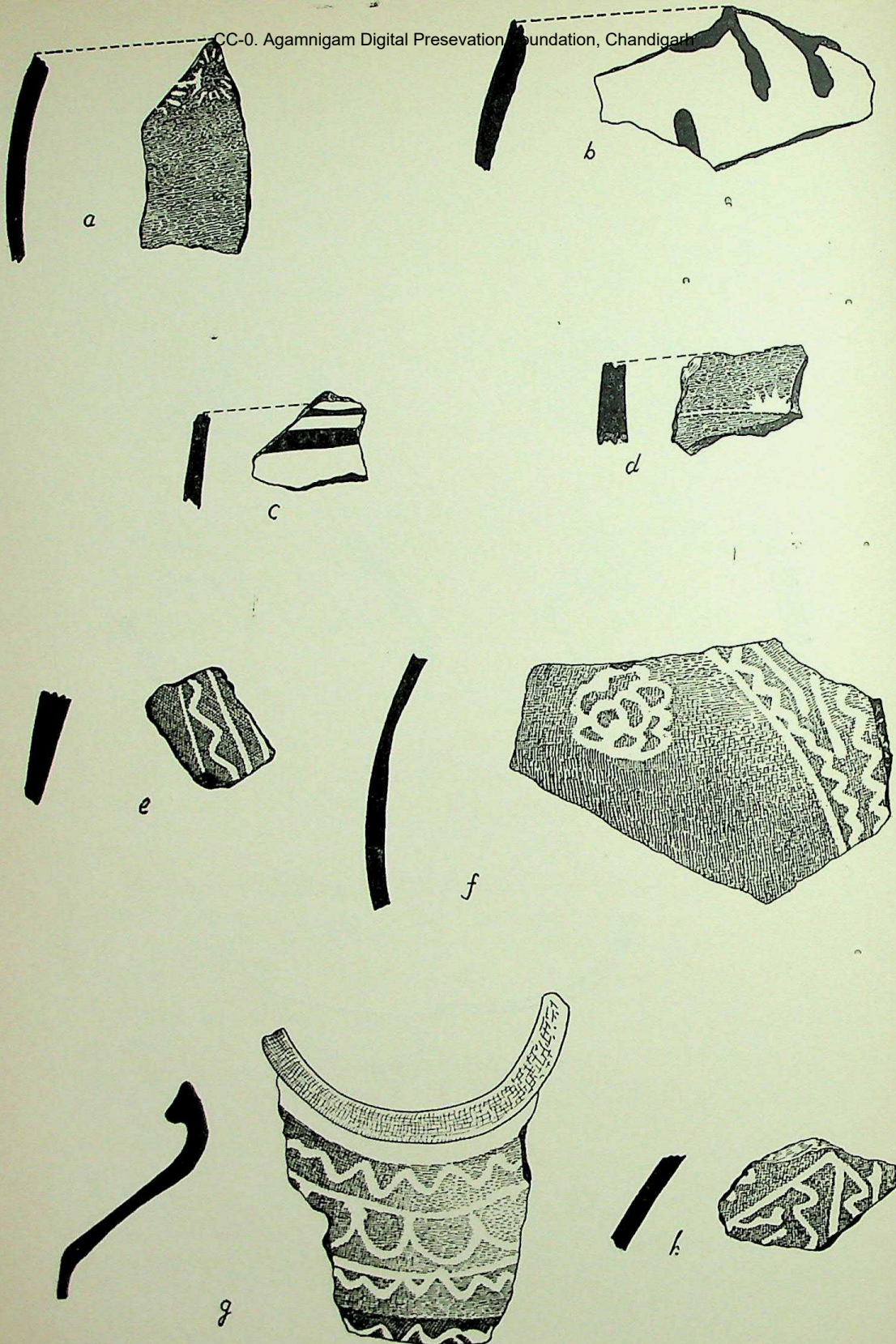


Fig. 98 Painted Pottery [1]
 Period V (Nos. a-d); Period VII (Nos. e-h). (See pp. 174-177)

POTTERY OF PERIOD VII

- No. d Similar to above but the design consisting of a solid rising sun. No. 3059, MHSR. II. ii. A(11).
 No. c Fragment of a red-slipped sherd with a greyish black band on the outer surface. No. 2864, MHSR. II. ii. A(10).

Period VI

Several sherds with painting were found. These were generally of coarse red ware. A few painted sherds of a coarse black fabric were also collected.

In the former, most of the painting is done either at the neck or the belly of the pot. In several cases, the coarse red surface is painted in deep red, or first coated with lime and then painted in deep red. If the sherd is partly slipped and burnished, then the painting is found only on the unburnished region. Besides red, black and lime white are also found to have been used as paints.

In the coarse black ware the surface is painted either directly by red ochre or first coated with lime and then painted in red ochre.

Most of these sherds bear painting in one colour. But there are several which have a bichrome painting, viz., white and red, or red and dull black. The painting seems to have been done with a thick instrument. Several sherds indicate that the surface was painted by means of fingers dipped in red ochre.

In all these cases, the painting was done after firing as it is not permanent but can be easily wiped out.

The illustrated specimens are as follows.

Painted, Coarse Black Ware

- Fig. 100. No. c Half of a tiny carinated bowl with a round base, having a broad, slanting band in ochre-red paint on the concave neck and a thin red band along the inner ring of the rim. No. 1794, MHSR. II. ii. A(4).
 Fig. 99. No. b Fragment of a thick-sided basin with a flat and rounded out edge, outer surface coated with lime over which is a thick coating of ochre-red paint. No. 1355, MHSR. II. ii. C(3).

Painted, Coarse Red Ware

- Fig. 99. No. c A complete globular vessel, possibly hand-made, with coarse red surfaces and having pairs of slanting strokes in ochre-red on the outer surface. No. 1004, MHSR. II. ii. C(5).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- Fig. 100. No. o Fragmentary sherd of a coarse red, (possibly) globular pot, with the outer surface painted in red ochre; a horizontal band capping three slant but vertical bands and loose bulbous strokes. No. 1957, MHSR. II. ii. C(5).
- No. g Similar to above but with some portion red-slipped and burnished, while on the coarse red surface three somewhat radiating lines in red ochre. No. 1958, MHSR. II. ii. C(4).

Sherds with Lime Wash and Red Painting

- Fig. 100. No. f Half of a carinated bowl with thick sides, tapering edge, outer surface *chunam*-coated over which are traces of a deep red paint. No. 2524, MHSR. II. ii. B(5).
- No. h Fragment of possibly a straight-sided tiny vessel with concave neck; decoration consisting of a pair of fingertip impressions alternated by a single impression all round the shoulder, traces of lime coating and red painting. No. 1790, MHSR. II. ii. A(4).
- Fig. 100. No. a Half of a small globular vessel with both the surfaces coated, not dipped, with lime, for the patches of original red surface are left out, the outer surface having a slanting stroke of deep dark-red paint. No. 182, MHSR. II. ii. A(4).
- Fig. 99. No. d Fragment of big, hand-made *Kundī* (flower pot), thick at the discoidal base, flaring sides, inner surface coarse red, outer coated with lime and partly red painted. No. 1251A, MHSR. II. ii. A(3).

Coarse Red Ware Painted in light Crimson-Red

- Fig. 100. No. b A fragmentary piece of probably a globular vessel with thin linear and bulbous designs in crimson red. No. 2679, MHSR. II. ii. D(5).

Coarse Red Painted in Black

- Fig. 99. No. a The upper portion of a spouted pot with a ringed rim, spout broken but its base indicated by a perforation and an uneven surface, outer surface having a slightly silvery micaceous lustre over which—at the neck, below the spout and along the belly—are bands in black. No. 1792, MHSR. II. ii. A(4).

(e) Bi-chrome Painted Red Ware

- Fig. 100. No. d Belly fragment of a globular vessel with the upper portion having a red coating below which are three horizontal bands of varying thickness in black; these bands cap a vertical band with bulbous projections at one side only, in red. No. 1823, MHSR. II. ii. C(4).

Muslim-Maratha Period (VII)

Twenty pieces were found in the topmost layer of Tr. I at Maheshwar. These form a group by themselves. The outer surface is characterised by the application of a slip of Indian red colour over which are paintings in thick pure-white paint. The paint seems to have been of a considerably thick consistency as the painting can be felt by fingers. The number of sherds being too small for any generalization or variety, it may be noted that within the limited nature of evidence, the wavy line, horizontal lines and festoons were the most favoured designs, though sherd No. 1164,

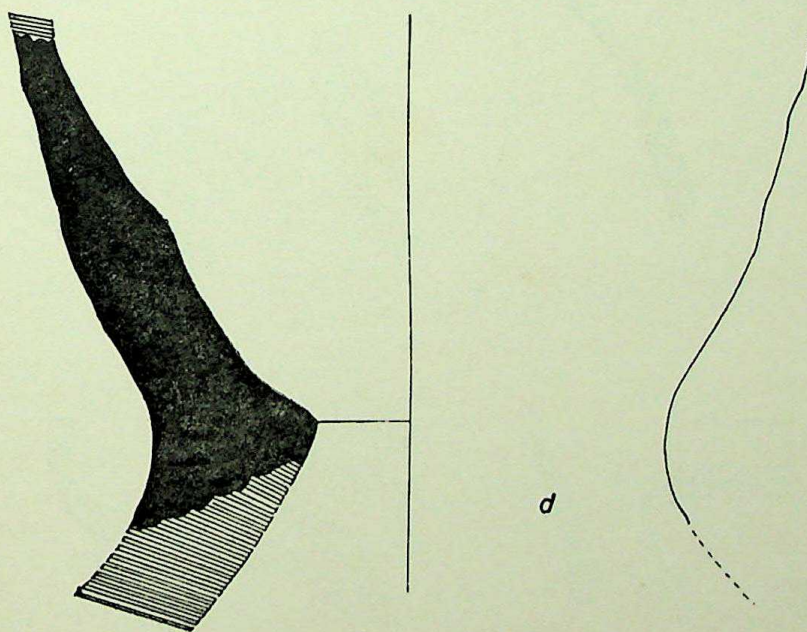
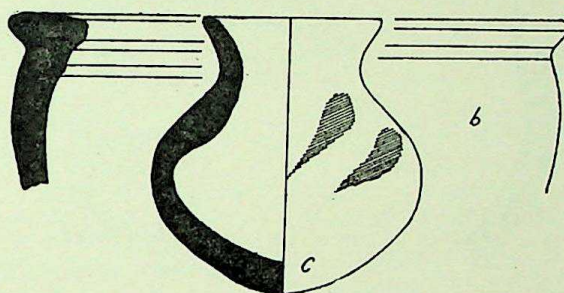
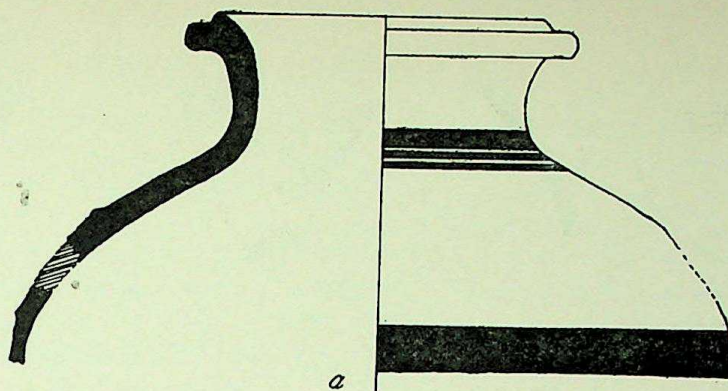


Fig. 99 Painted Pottery [$\frac{1}{2}$] Period VI. (See pp. 175-76)

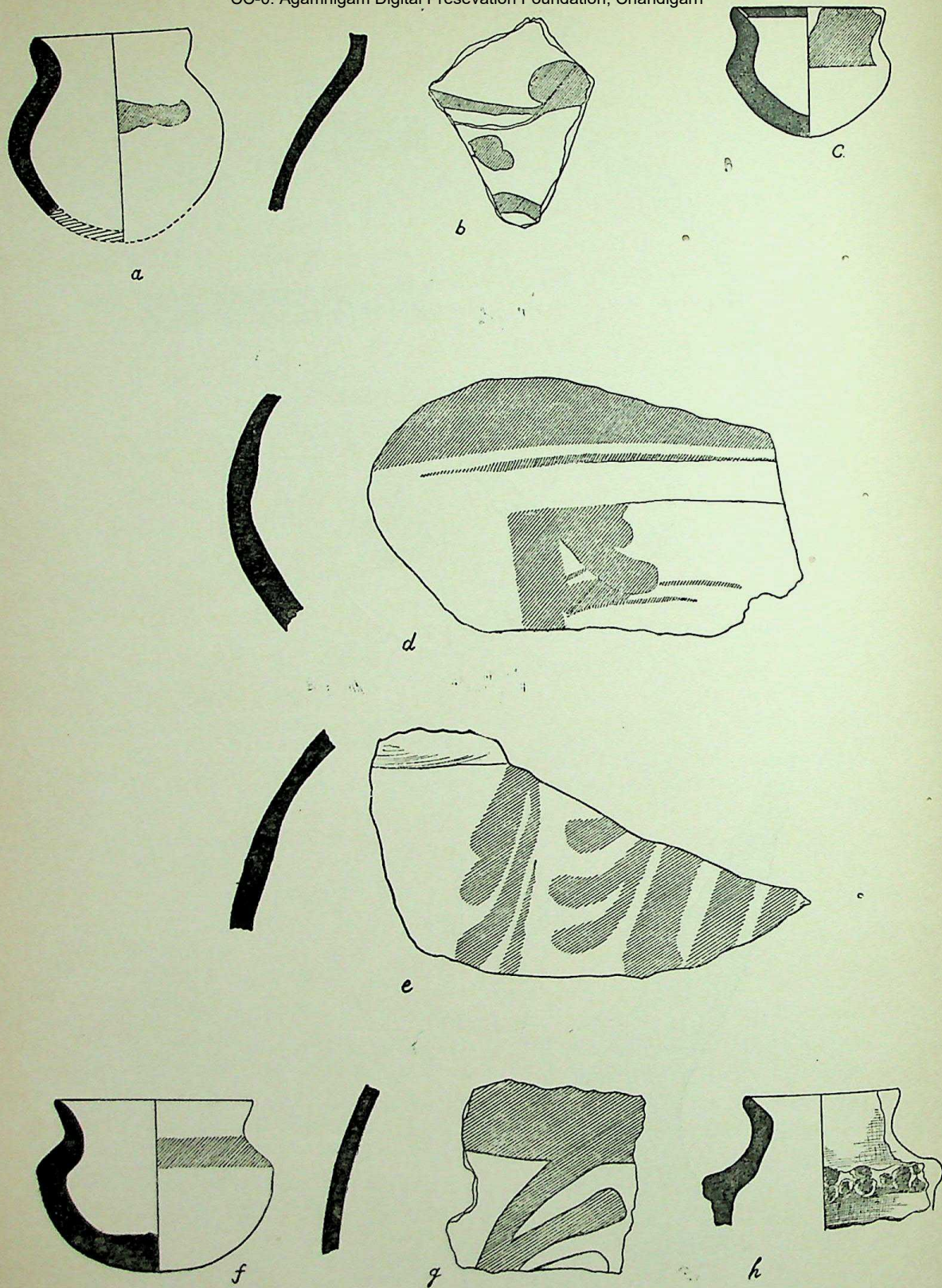


Fig. 100 Painted Pottery [1/2] Period VI. (See pp. 175-76)

BEADS

described below, marks a deviation from this. The most remarkable feature of the painting is its consistency of linear thickness which varies between 3 to 4 mms.

These potsherds are characterised by a black core which is gritty and porous. The clay used contains lot of *degrassaint*. The thickness of the sherds varies between 3 to 6.5 mms. These can be grouped into four distinct categories on the basis of the nature of their inner surface.

- (a) those with a rough and red inner surface with numerous straw marks (thickness : 5 to 5.5 mms.),
- (b) those with a smooth red surface with no straw marks, wheel-made (6 to 4 mms.),
- (c) that with a porous red inner surface marked by pores due to tiny sand particles and finger-depressions indicating that the surface was given finishing touches by fingers when the clay was wet (6 mms.), and
- (d) those with a grey-black smooth inner surface; these sherds are characterised by bright-white painting which in the case 'a', 'b' and 'c' is dull white (5 to 6 mms.).

- Fig. 98, No. g Fragment of a carinated pot with a grooved banded rim, almost constricted neck; outer surface and a portion of the inner rim-region with a red slip, the outer red-slipped surface having a painting of wavy lines and festoons in dull white. No. 1542, MHSR. II. ii. F(3). Type 'a'.
- No. h Similar to above but with the painting in zigzag and angular lines in white. No. 1055, MHSR. II. ii. A(1). Type 'a'.
- No. f A fragmentary sherd possibly belonging to the belly of a globular pot with the outer red-slipped surface painted in white; paint wiped out leaving a dusty outline consisting of slanting and vertically zigzag lines near it is a free-hand design imitating a flower in bloom. No. 1164, MHSR. II. ii. F(2). Type 'c'.
- No. e Fragment, outer surface with bright red slip bearing three horizontal lines with a wavy line in between. No. 1019, MHSR. II. ii. D(1). Type 'd'

VIII

BEADS

The collection which consisted of more than 350 beads may be grouped as follows:

- (a) beads from Navdatoli,
- (b) beads from Maheshwar, and
- (c) surface collection.

(a) BEADS FROM NAVDATOLI (FIGS. 101, 102)

One hundred and ninety two beads were found in various trenches.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

The following chart shows their diffusion according to material and period.

Material	Total	Periods					Surface
		III	IV	V	VI	VII	
Agate	5	1	—	—	—	—	4
Amazonite	3	1	2	—	—	—	5
Carnelian	9	2	2	—	—	—	—
Chalcedony	8	5	1	—	—	2	2
Crystal	2	—	—	—	—	—	—
Faience	6	6	—	—	—	—	1
Glass	4	1	—	—	—	2	—
Jasper	1	1	—	—	—	—	—
Lapis	1	1	—	—	—	—	1
Opal	1	—	—	—	—	—	—
Paste	9	8	1	—	—	—	—
Sandstone	1	1	—	—	—	—	—
Shell	3+1Shell	4	—	—	—	—	—
Steatite	104	99	3	—	—	1	1
Terra-cotta	33	6	10	—	—	17	—
Zeolite	1	—	—	—	—	1	—
Total	192	136 (66%)	19 (9%)	—	—	23 (12%)	14

Agate

Out of five beads, four were surface finds. Of these, three are long barrel-shaped (Nos. 2055, 4046a, 1752, Surface; No. 4064, Period III), and one biconvex (No. 75, Surface).

Fig. 101, No. 6 A small truncated barrel of reddish surface with pink-white bands. No. 1752, NVT. Surface.

No. 20 A long truncated barrel of banded agate with milky-white, dull grey and orange bands on yellow-pink surface. No. 4064a, NVT. Surface.

Amazonite

One complete and two fragmentary beads of this material were found. The latter (Nos. 4362, 4384, Period IV) are long barrels.

Fig. 101, No. 4 A short cylindrical bead with slightly tapering sides, rough surface and an ashy light-green body. No. 912, NVT. I. ii. C(2). Period III.

Carnelian

Nine carnelian beads—two etched—were found. Four of the seven un-etched specimens are surface finds. Two are truncated bicones (No. 76 Surface; No. 3025, Period III), one biconical square (No. 2056, Surface),

BEADS

one short barrel (No. 3024, Surface), one flat low-cylinder (No. 3193, Period III), and two squares with chamfered sides and hexagonal cross-section (Nos. 2043, 2043a, Surface).

Fig. 101. No. 22 A polished truncated biconical bead of translucent deep red carnelian, slightly worn out. No. 76, NVT. Surface.

No. 29 A medium size, deep pomegranate-coloured bead of hexagonal cross-section and square outline with chamfered sides, slightly worn out. No. 2043. NVT. Surface.¹

No. 11 A square bead of deep red carnelian with polished surfaces. No. 2056, NVT. Surface.

No. 8 A short barrel of orange-coloured carnelian with truncated ends, slightly worn out. No. 3024, NVT. I. i. F(4). Period III.

Etched Variety

Fig. 101. No. 15 A small, deep-red, globular bead having three roughly pear-shaped etchings in white, well made. No. 255, NVT. I. i. D(2). Period IV.

No. 13 A long cylindrical bead of carnelian with deep orange-red shades, having four equidistant circles in white around the body. No. 3207, NVT. II. iii. B(3). Period IV.

Chalcedony

Of the eight specimens, one is a short cylinder (No. 1317), two are truncated bicones (Nos. 1491 and 3192, Period III), one slightly barrel-shaped (No. 2039), one spherical (No. 3319), two truncated barrels (Nos. 3319a and 3319b, Period VII), and one irregularly tubular (No. 1742, Period III). The following are illustrated.

Fig. 101. No. 9 A short cylinder of milky-white chalcedony with surfaces smooth and polished. No. 1317, NVT. I. i. B(2). Period IV.

No. 10 A short truncated bicone, milky white, well made. No. 1491, NVT. I. i. H(7). Period III.

No. 14 A barrel-like bead of soiled chalcedony, much worn out. No. 2039, NVT. I. i. G(3). Period III.

No. 5 A spherical bead, dull coloured, well polished and neatly perforated. No. 3319, NVT. III. iv. N(1). Period VII.

Crystal

Both the specimens were surface finds. One is a truncated bicone.

Fig. 101. No. 26 A short cylinder with breadthwise perforation, slightly worn out.

Faience

Six beads of this material were found. All these belong to Period III.

The unillustrated specimens are a short cylinder (No. 1929), a truncated barrel (No. 2869), and a long cylinder (No. 4285).

1. Similar beads assignable to the Mauryan period have been recently reported from Somnath. Information kindly supplied by Shri PANDYA.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- Fig. 101. No. 18 A short barrel of light sea-green-blue colour, worn out at one end. No. 3236, NVT. I. i. D(5).
 No. 25 A tubular bead of bluish-white colour, slightly concave. No. 1321, NVT. I. i. D(6).
 No. 12 A short cylinder of ashy white colour. No. 2869, NVT. I. i. C(6).

Glass

Of four, one was a surface find (No. 3373), and three came from stratified layers. (No. 3318, Period III; Nos. 3186 and 4074, Period VII). No. 4074 is a green, flat and circular bead.

- Fig. 101. No. 7 A small, ashy-white, conical bead of glass with rounded base. No. 3318, NVT. I. i. C(6). Period III.
 No. 28 A globular bead with dark blue body having round and solid white "eye"-like dots. No. 3186, NVT. I. i. B(1). Period VII.

Jasper

Only one bead was found.

- Fig. 101. No. 1 An irregularly circular bead of blackish-green jasper of very inferior quality. No. 4901, NVT. II. iii. D(12). Period III.

Lapis-Lazuli

A single specimen was recovered.

- Fig. 101. No. 23 A short cylinder of lapis, broken and exposing half of the perforation, soiled hazy-blue surface with pale-white specks. No. 826, NVT. I. i. D(3). Period III.

Opal

The only specimen was a surface find.

- Fig. 101. No. 30 A spherical bead of opal slightly worn out. No. 2051, NVT. Surface.

Paste

Nine beads of this material were found. Of these, eight belong to Period III and one comes from the layer of Period IV. These reveal different shapes, such as circular (No. 1318), disc (No. 1485), cylindrical (No. 2649), and barrel (No. 4282).

- Fig. 101. No. 24 A truncated bicone of ashy-coloured paste with light purple dots, well made. No. 3035, NVT. II. iii. C(4). Period IV.
 No. 17 Truncated barrel with greyish body having creamy-white bands breadth-wise. No. 3191, NVT. I. i. D(4). Period III.
 No. 19 Half of a barrel bead of paste (?) with dull chocolate bands on a dusty surface. No. 4282, NVT. I. i. C(6). Period III.
 No. 3 One-fourth fragment of an ashy-white disc-shaped bead of paste with traces of central perforation. No. 1485, NVT. I. i. C(4). Period III.

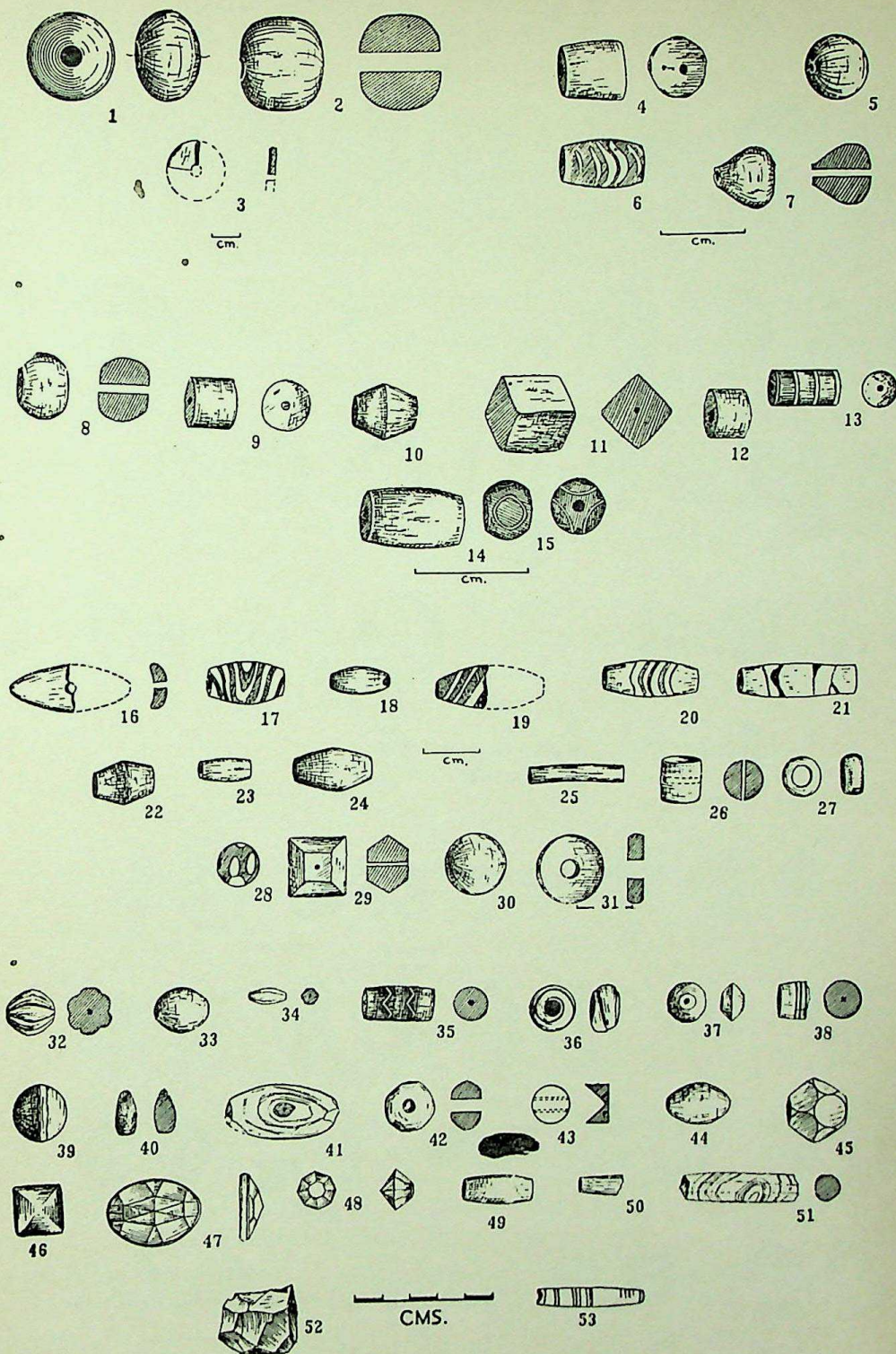


Fig. 101 Beads. (See pp. 178-82; 189-91)

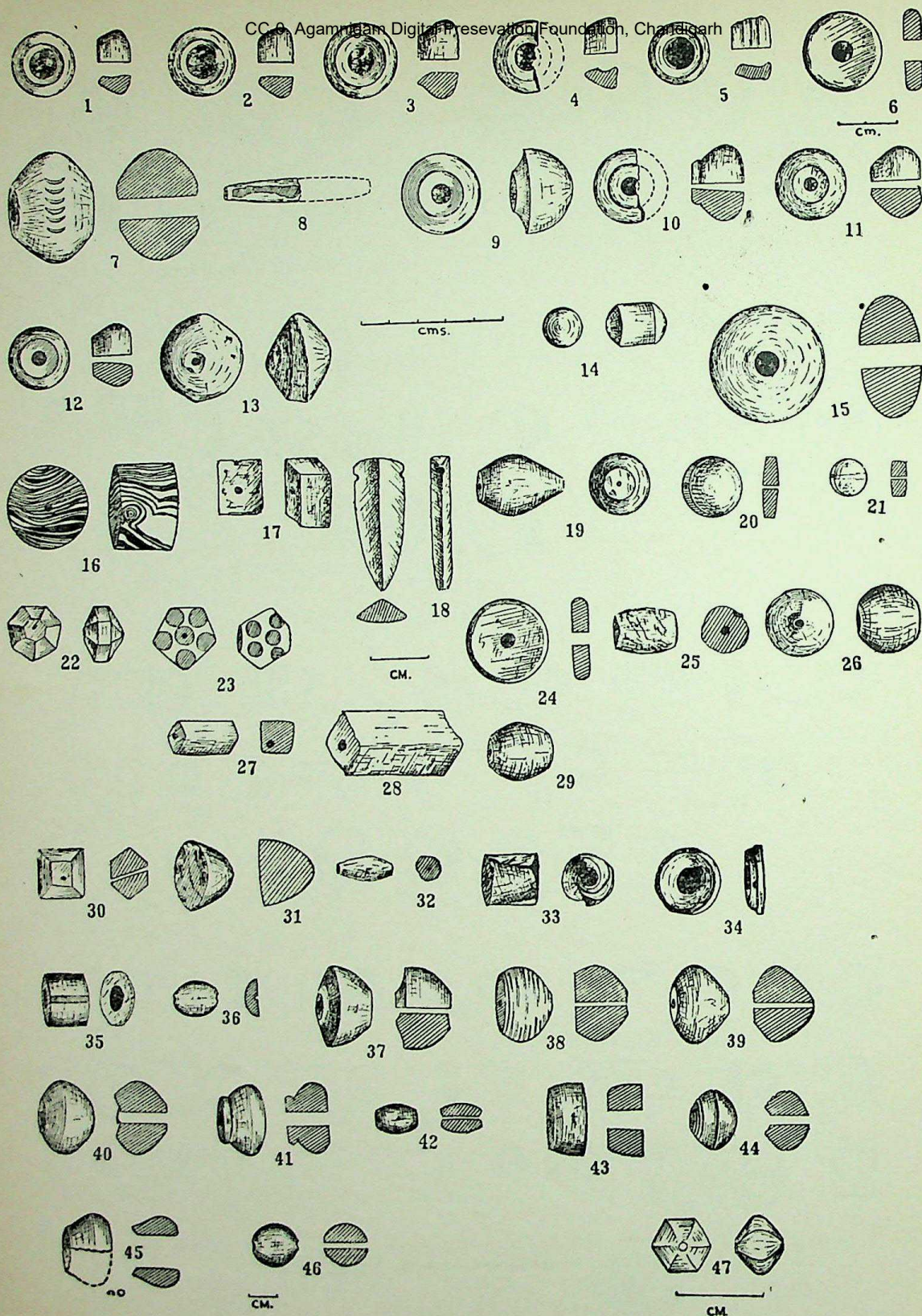


Fig. 102 Beads. (See pp. 185-88)

BEADS

Sandstone

Only one specimen, and that too of a doubtful nature, was found.

Fig. 101. No. 21 A long cylinder of banded sandstone (?) slightly broader at one end, the surface having bands of grey, light blue and chocolate-pink colours. No. 4584, NVT. III. v. B(6). Period III.

Shell

Out of four specimens, one was a regular shell bored at one end. The other three are illustrated.

Fig. 101. No. 27 A circular, flat bead of white shell with one side bulging and the other broken. No. 1928, NVT. I. i. C(5). Period III.

No. 16 Half of an oval, flat and polished shell bead, perforated in the centre. No. 4577, NVT. III. iv. A(6). Period III.

No. 31 A disc-shaped bead of cream colour, perforated in the centre, well polished. No. 3185, NVT. I. i. B(4). Period III.

Steatite

The most remarkable group of beads was that of burnt steatite. As many as 107 beads of this material were found. Almost in all cases they are extremely tiny to handle and present a whitish surface.²

These beads can roughly be divided into the following eight varieties.

- (i) Short truncated bicones
Period III, 7. IV, 1.
- (ii) Segmented
Nos. 2528 (2 segments), 4629 (4 segments), 4866 (7 segments).
All belong to Period III.
- (iii) Short cylinder
Eleven. All belong to Period III.
- (iv) Tiny, circular, "micro" beads
Period III, 16. IV, 2.
- (v) Disc-shaped
Period III, 49. VII, 1 ; Surface 1.
- (vi) Long cylinder
Nine. All belong to Period III.
- (vii) Tiny, truncated barrel
Four. All belong to Period III.
- (viii) Bigger, truncated barrel
Three. All belong to Period III.

2. Recently Lothal, a Harappan site in Gujarat, yielded abundant tiny beads of steatite and faience. Information kindly supplied by Shri S. R. Rao.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Terracotta

Thirty-three beads of various shapes were found. They can be divided into the following types.

- (1) Low barrel.
 - (a) With rounded base and truncated concave top. Period III, 3 ; IV, 4 ; VII, 8.
 - (b) With a perfectly flat base. Period III, 1 ; IV, 1 ; VII, 4.
- (2) Disc shaped (No. 1746, Period III).
- (3) Truncated biconvex (No. 4152, Period IV).
- (4) Long barrel (No. 96, Period VII).
- (5) Collared (No. 847, Period VII).
- (6) *Ghata* shaped (Nos. 2087, 3204, Period IV).
- (7) Arecanut shaped (Nos. 2049, 2878, Period VII).
- (8) Irregular shaped (Nos. 3037, Period IV ; 3211, Period VII ; 4388, Period III ; 4516, Period IV).

Of these, the following are illustrated.

Fig. 102. Nos. 1, 2, 3 Type (1a) (Nos. 24, 79, 146).

Nos. 4, 5 Type (1b) (Nos. 22, 4373a).

No. 6 Type (2) (No. 1746).

No. 7 Type (3) (No. 4152 with six nail incisions).

No. 8 Type (4) (No. 96).

No. 9 Type (5) (No. 847).

No. 10 Type (6) (No. 3204).

Nos. 11, 12 Type (7) (Nos. 2049, 2878).

No. 13 A crude, biconvex bead of terracotta, worn out and flattened near the edge which brushed against the wearer's body as can be corroborated by the position of the perforation which is close to the worn out edge and not in the centre. (Type 8). No. 3037, NVT. II. iii. C(3). Period IV.

No. 14 A terracotta, unperforated bead with cylindrical body and convex ends. (Type 8). No. 4388, NVT. III. v. B(3). Period III.

No. 7 An irregularly circular bead of terracotta, worn out and having a big perforation. (Type 8). No. 4516, NVT. III. iv. M(3). Period IV.

Zeolite

Only a fragmentary bead was found.

Fig. 101. No. 2 Half of a globular bead of zeolite with a rough surface. No. 4701, NVT. III. iv. C(1). Period VII.

Parallels from other sites

The most remarkable group of beads from Navdatoli is that of burnt steatite. Though tiny in size, they could be sub-divided into many shapes. Among these, the tiny, circular "micro" beads were found in a bunch in one trench. It may also be noted that 99 out of 104 belong to proto-historic

BEADS

layers. It is not possible to say whether these beads were made locally, though unfinished beads and cores of other stone material do occur at Navdatoli. Moreover, steatite though "of wide occurrence in India" is not available in large quantity except in Rajputana where it occurs "in thick lenticular beds of wide extent in the schists".³

Similar tiny steatite disc beads have, however, been recovered at Harappa,⁴ Mohenjodaro,⁵ other Indus Valley sites,⁶ and at Samarra,⁷ Nineveh,⁸ and Ur⁹ in Iraq.¹⁰ Of the bigger beads of this material, the segmented beads of whitish colour are remarkable inasmuch as the segments are perfectly equidistant. It seems that from such long segmented tubes, small "micro" beads were cut off. Similar beads, though of faience, have been found at Harappa,¹¹ as also at Nineveh,¹² and Mohenjodaro.¹³

Along with steatite, faience beads, though small in number are also important. They are mostly bluish-green in colour to the core and not at all hard. This means that the faience as found at Navdatoli is of an inferior quality, for "if the faience, when manufactured, is not mixed correctly or heated sufficiently, it has a tendency to break up and often disintegrates

3. WADIA, D. N., *Geology of India*, pp. 371-72.

4. VATS, M. S., *Excavations at Harappa*, Vol. II, Pl. CXXXIII, Fig. I (Disc beads); pl. CXXXIV, Figs. 8 to 11 (small beads); *Ancient India*, No. 3, Fig. 26, Nos. 4, 5.

5. MACKAY, *Further Excavations at Mohenjodaro*, Vol. I, pp. 392ff., Vol. II, Pl. CXXI, No. 61 (disc beads); CXXXVI, No. 1; CXXXIX, No. 54.

6. According to H. BECK, steatite was "one of the favourite materials in the Indus Valley", *Beads from Taxila*, p. 34; See also, MARSHALL, *Mohenjodaro and Indus Civilization*, Vol. II, p. 526; VATS, M. S., *op. cit.*, Vol. I, p. 411.

7. HARZFELD, *Ernst Die Ausgrabungen von Samarra*, Band IV, Berlin, 1930, pl. XLVI, No. (1); XLV, No. (1); XLIII, No. (1). In all these cases, the material could not be ascertained.

8. *Annals of Archaeology and Anthropology*, University of Liverpool, Vol. XX. Pl. LXXXIX, No. 20; Excavations at Nineveh (1931-32) yielded a necklace of steatite beads along with a child burial; see also p. 179.

9. Tiny steatite beads found also at Ur, VATS, M. S., *op. cit.*, Vol. I, pp. 395-6. The recent excavations at Nevasa (Bombay State) have also yielded nearly six hundred tiny disc beads of steatite in the chalcolithic layers.

10. STEIN, A., "An Archaeological Tour in the Ancient Persia", published in "Iraq" Vol. III, p. 152 (published by the British School of Archaeology in Iraq, 1936).

11. VATS, M. S., *op. cit.*, Vol. II, pl. CXXXIII, 6b, 6c. For foreign parallels quoted by him, see Vol. I, p. 406. *Ancient India*, No. 3, Fig. 26, Nos. 21, 22, also pl. LI. Nos. 21, 22; MARSHALL, *op. cit.*, Vol. II, p. 514, (Vol. III, pl. CXLVI, 23-30); MACKAY, *Chanhudaro Excavations*, pl. LXXXIII, 52, 53; LXXXVII, 8, 10.

12. *Annals of Archaeology etc.*, pl. CXXXII, Fig. 6. V. Gordon CHILDE, *The Dawn of European Civilization*, p. 39; *New Light on the Most Ancient East*, p. 212.

13. MACKAY, *op. cit.*, pl. CXXXVII, No. 54; CXXXIX, No. 54; Vol. I, p. 511.

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into powder when handled".¹⁴ Anyway, it is to be noted that faience was "a popular material for beads in Egypt¹⁵", and also at Mohenjodaro¹⁶ and Harappa.

The occurrence of somewhat similar steatite and faience beads at Navdatoli, the Indus Valley sites and Western Asia, might hold out tempting similarities indicative of a possible contact—for their periods and some shapes are identical—, or the transference of the technique of bead-making. But this need not be overemphasised at this stage, though some painted pottery types and designs also recall similar features in Western Asiatic pottery.¹⁷

Another remarkable feature of Navdatoli beads is the group of paste beads. The process employed in the making of these variously coloured beads (Cf. Fig. 101, Nos. 17 and 19) seems to be that first the bead was fashioned out of porcelain-like paste to the size and shape required, then it was painted and lastly the whole painted bead was coated with a thin layer of glass enamel with a view to give it a glossy appearance as also to preserve the painted design intact.

Of the two etched beads, Fig. 101, No. 15 having somewhat pear-shaped circles in white, resembles favourably in design with the one coming from the Indian Museum, Calcutta.¹⁸ The other specimen Fig. 101, No. 11, has an exact parallel from Maheshvar as well, belonging to the same period.

The eye bead (Fig. 101, No. 28), though late (Period VII), has an earlier parallel from Taxila.¹⁹

The single specimen of sandstone bead (Fig. 101, No. 21) cannot lead to any conclusion. It may be noted, however, that even though large amount of sandstone could be had from the upper Vindhyan range,²⁰ this material was not much used in bead-making.

14. BECK, *op. cit.*, p. 32.

15. *Ibid.*, p. 31; also SREENIWASACHAR, in Introduction (p. VII) to DIKSHIT, M. G.'s *Beads from Kondapur*.

16. MARSHALL, *op. cit.*, pp. 346-53, 365-7, 570-6 etc. etc.

17. SANKALIA, H. D., *Antiquity*, Vol. XXIX, pp. 28-31, 112-115.

18. See, DIKSHIT, M. G., *Etched Beads in India*, pl. IX, No. 15; also, pl. II, No. 10 (without the dot in the circle) from Brahmanabad; also BECK, *op. cit.*, pl. II, No. 8.

19. BECK, *op. cit.*, pl. I, No. 20, of 1st century A. D.

20. WADIA, D. N., *op. cit.*, p. 336.

BEADS

The crystal bead (Fig. 101, No. 26) of a short cylinder shape is remarkable for the breadthwise perforation.

The terracotta beads mostly in use in later periods reveal a wide variety of shapes. These types being common to several ancient sites in India over a wide stretch of period, need no comment.

(b) BEADS FROM MAHESHVAR (FIG. 102)

Maheshvar trenches yielded 126 beads. Their materialwise and periodwise tabulation is given below.

Material	Total	Periods					Surface
		III	IV	V	VI	VII	
Agate	3	—	—	—	2	1	—
Amazonite	1	—	—	—	1	—	—
Carnelian	9	—	2	1	4	2	—
Chalcedony	2	—	—	—	2	—	—
Crystal	5	—	—	—	3	2	—
Garnet	2	—	—	—	—	2	—
Glass	11	—	—	2	8	1	—
Jasper	4	—	—	—	3	—	1
Opal	1	—	—	—	1	—	—
Quartz	1	—	1	—	—	—	—
Shell	6	—	—	1	5	—	—
Soapstone	2	—	—	—	2	—	—
Terracotta	79	—	1	3	65	6	4
Total	126	—	4	7	96	14	5

Agate

Of the three beads, one is tablet-shaped (No. 168, Period VII), and another is a short barrel (No. 371, Period VI).

Fig. 102. No. 16 A well polished short cylindrical bead of banded agate having a network of bands in black, white and ashy-blue. No. 438, MHSR. V. i. B(3). Period VI.

Amazonite

One bead of this material was found.

Fig. 102. No. 25 A truncated barrel bead, much worn out at the ends, and having a rough bluish body. No. 223, MHSR. II. ii. A(3). Period VI.

Carnelian

Out of nine, one is etched, two cylindrical (No. 418, 478, Period VI), one truncated barrel (No. 826, Period V), one globular (No. 1039, Period IV), and one of an irregular shape (No. 307, Period VII).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- Fig. 102. No. 17 A short squarish cylinder bead of orange red colour with a breadthwise central perforation. No. 264, MHSR. V. i. H(1). Period VII.
- No. 30 A bead with hexagonal section, squarish outline and chamfered sides. No. 1067, MHSR. II. ii. A(14). Period IV.
- No. 18 A dagger-shaped pendent. No. 264a, MHSR. V. i. A(5). Period VI.
- The etched bead is exactly similar in shape and design to the one found at Navdatoli (Fig. 101, No. 13), and belongs to Period VI at Maheshwar.

Chalcedony

Two beads of this material were found.

- Fig. 102. No. 26 A truncated barrel bead of milky-white chalcedony, worn out near the perforation. No. 398, MHSR. II. ii. B(3). Period VI.
- No. 31 An unperforated arecanut-shaped piece of bluish-milky colour, worn out at the base. No. 527, MHSR. II. ii. C(4). Period VI.

Crystal

Of the five beads, three are globular (Nos. 519, and 735, Period VI ; No. 156, Period VII).

- Fig. 102. No. 21 A small tablet bead of crystal, well-made and polished. No. 376, MHSR. V. i. A (1). Period VII.
- No. 22 A septagonal bead of crystal. No. 376a, MHSR. II. ii. B (5). Period VI.

Garnet

Two beads were recovered. Both belong to Period VII, i.e. Muslim-Maratha. One is a tiny disc (No. 158).

- Fig. 102. No. 47 A short hexagonal barrel, slightly worn out and having irregular facets. No. 96, MHSR. V. i. D(2). Period VII.

Glass

Several fragmentary and eleven intact specimens were found. Of the intact ones, eight came from layers of Period VI, two from those of Period V and one from that of Period VII. They show a wide range of shapes such as spherical, truncated barrel, globular, hexagonal cylinder, and irregularly circular. The colours employed are deep blue, deep green, yellow, sea green and soiled white.

- Fig. 102. No. 35 A cylindrical bead of opaque glass somewhat oval in section, light blue core, having alternate horizontal bands of green and red on whitish surface. No. 520, MHSR. V. i. A(1). Period VII.
- No. 36 Half of a flat barrel-shaped (or oval) bead of white transparent glass, well-made. No. 220, MHSR. II. ii. A(2). Period VI.
- No. 28 A square-cylinder of pale moss-green colour, worn out. No. 527A, MHSR. II. ii. B(4). Period VI.
- No. 29 A short truncated barrel bead of greyish-black glass with several whitish specks ; outer surface glossy. No. 527, MHSR. II. ii. C(4). Period VI.

BEADS

Jasper

Of the four, two are described below. The unillustrated specimens are a truncated hexagonal barrel of a very poor quality of red jasper (No. 459, Period VI) and another of a globular shape (No. 157, Period VI).

Fig. 102. No. 19 A biconical bead of green jasper with one end truncated and the other tapering but slightly broken. No. 6, MHSR. I. Surface.

No. 20 A well-polished tablet bead of chocolate-brown jasper with a diameter-wise perforation. No. 375, MHSR. V. i. B(2). Period VI.

Opal

One bead of this material was found. The quality of opal is very poor.

Fig. 102. No. 24 A tablet bead of non-crystalline silica or rough opal having a central perforation. No. 469, MHSR. V. i. A (3.) Period VI.

Quartz

Quartz is represented by one specimen.

Fig. 102. No. 23 A truncated biconical bead of milky-white quartz with rounded flats. No. 1027, MHSR. II. ii. A(14). Period IV.

Shell

Of the six, one is a tiny but long shell bored at one end and was used probably as a pendent (No. 301, Period VI); one is irregularly circular (No. 420, Period VI), and one is a worn out cylindrical bead (No. 863, Period V).

Fig. 102. No. 32 A bicone, fashioned by brushing and cutting the thickest part of a shell of cream colour. No. 411, MHSR. V. i. B(3). Period VI.

No. 33 A cylinder carved out of a thick shell, having marks of abrasion, perforated lengthwise, cream coloured. No. 559, MHSR. II. ii. G(4). Period VI.

No. 34 A collared disc (button bead) of milky-white shell with a big perforation. No. 589, MHSR. II. ii. E(4). Period VI.

Soapstone

Two beads of soapstone were found. The undescribed specimen is extremely worn out and has an ashy colour and globular shape (No. 514, Period VI).

Fig. 102. No. 27 A square barrel bead of ashy colour, well polished, slightly worn out. No. 286, MHSR. V. i. H(2). Period VI.

Terracotta

The seventy-nine terracotta beads can be grouped as under.

(i) *Areca-nut-shaped*

This has three sub-varieties

- (a) Flat base and either a truncated or a tapering top (Fig. 102, No. 39).
Periodwise distribution
VI—8, V—2, IV—1.

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- (b) With a concave base and either a truncated or a tapering top.
(Fig. 102, No. 40) Periodwise distribution VI—8, V—1.
- (c) With fine, close and parallel striation-like grooves on the body.
(Fig. 102, No. 38). Periodwise distribution VI—5.
- (ii) *Beads with a convex body, truncated top and a collared concave base*
(Fig. 102, No. 37). Periodwise distribution
VI—29 ; VII—5.
- (iii) *Ghata-shaped with a collared top or rim* (Fig. 102, No. 41).
Periodwise distribution
VI—6, surface—2.
- (iv) *Globular* (Fig. 102, No. 46).
Periodwise distribution
VI—3, Details not available—1.
- (v) *Medium Barrel* (Fig. 102, No. 42).
No. 419, MHSR. II. ii. H(3). Period VI.
- (vi) *Short Barrel*
No. 417, MHSR. II. ii. E(3). Period VI. (Not illustrated).
- (vii) *Short barrel with one end truncated and concave* (Fig. 102, No. 44). This bead
has four incised concentric circles, one at the circumference and three around
the perforation at the concave end. No. 466, MHSR. II. ii. B(4). Period VI.
- (viii) *Low barrel tapering towards one end, having a thin body and a big perforation.*
(Fig. 102, No. 45)
Periodwise distribution
VII—1 ; Details not available—1.
- (ix) *Short barrel with both ends flat and outline slightly tapering towards one end* (Fig. 102
No. 43)
Periodwise distribution
VI—3.

Peculiarities and parallels

The dagger-pendent of Period VI has a somewhat earlier parallel from Kondapur (Hyderabad State) where similar pendants of lapis,²¹ chalcedony²² and green faience,²³ belonging to the Satavahana period, have been found. Still earlier specimens are reported from Taxila where they belong to 4-3 century B.C.²⁴ In the case of the other carnelian bead which has been found both at Navdatoli and Maheshvar—a square bicone (Fig. 101, 29 and Fig. 102, 30), a later parallel can be had from Taxila where it was found in the layers of the 1st century A.D.²⁵

21. DIKSHIT, M. G., *Beads from Kondapur*, pl. II. No. 68.

22. *Ibid.*, pl. II, No. 100.

23. *Ibid.*, pl. II, No. 132.

24. BECK, *op. cit.*, agate, pl. III, No. 11 ; carnelian, pl. IV, No. 7.

25. *Ibid.*, pl. IV. No. 29.

BEADS

Another remarkable bead at Maheshvar is that of quartz (Fig. 102, No. 23), having rounded flats. Exactly similar beads have been found at Nasik in the same period, i.e. early historic, as also at Kondapur²⁶ and at Taxila.²⁷ This identity of design and widespread occurrence in the same period is remarkable.

Of the crystal beads, the tablet shaped is very common.²⁹ The crystal used for Maheshvar beads is of pure transparent variety. Another crystal bead (Fig. 102, No. 22) is remarkable for its septagonal shape and good facets.

Among shell beads, the button bead (Fig. 102, No. 34) of Period VI has a contemporary parallel from Taxila but in quartz.²⁹

The last but not the least important bead is the painted glass bead (Fig. 102, 35). On bluish core is a white coating which forms the base for painting in green and red. Even though small, it is executed well. Beads made in this fashion but of different design have been found in Muslim strata at Nasik and Kolhapur.³⁰ Similarly executed but segmented and longitudinally striped glass beads have been reported from Mapungubwe (Africa). Leo FOUCHÉ refers to similar beads from Egypt but he is doubtful about their date.

(c) RANDOM SURFACE COLLECTION (Fig. 101)

Besides the stratified beads a collection of 48 beads was made by Mrs. SANKALIA.

A study of this collection though found out of context and hence not possible to be dated, brings to light beads in all stages of manufacture. For instance, No. 52 of Fig. 101 represents a crude, unworked core of jasper which possibly formed the raw material in the making of beads. Stage second, in which such cores were flaked off to a shape required, is evidenced by No. 51 of Fig. 101, which is of agate. In this stage, the bead was still unperforated. It is quite likely that such flakes were possibly used in making retouched or plain blades. Stage three consisted in polishing such a flaked

26. DIKSHIT, M. G., *op. cit.*, pl. II, 103, 104.

27. BECK, *op. cit.*, pl. II. No. 38 of c. 3rd century B. C.

28. Found at Nasik, Kondapur and Kolhapur, in "Satavahana" layers.

29. BECK, *op. cit.*, pl. V, No. 18.

30. SANKALIA and DIKSHIT, *Excavations at Brahmapuri* (Kolhapur) p. 104; Leo FOUCHÉ, *Mapungubwe*, p. 107; pl. D, No. 5.

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off core to a perfect shape. This is evidenced by No. 46 (of crystal), No. 51 (of agate), and No. 53 (of chalcedony) of Fig. 101. The final stage involved boring of such a bead. Instances of incomplete attempts of perforation can be evidenced by Nos. 51 and 53, Fig. 101. On the basis of this evidence it can be surmised that Navdatoli, to which these specimens belong, was a bead-making site like Chanhudaro where also beads in these various stages were found.

The other illustrated specimens are as under.

MAHESHWAR

Agate

- Fig. 101. No. 39 Globular, half jet-black and half ashy, the two halves marked by a white band running round the circumference, selection of material noteworthy.
- No. 38 Fragment, truncated barrel, three equidistant circles in black winding the outer surface.
- No. 41 Fragmentary barrel with a network of bands in black on ashy-white surface on one side, and on the other a natural "eye" suggested by a black dot (pupil) on white surface (sclera).

Carnelian

- Fig. 101. No. 34 Hexagonal barrel.
- No. 40 Drop pendent with milky-white dots on one surface.³¹
- No. 37 Circular bead with a truncated biconical section.
- No. 35 Etched, cylindrical, chevron design in the middle.³²

Chalcedony

- Fig. 101. No. 42 Circular bead of impure chalcedony, half ashy, half dull-milky.
- No. 45 Truncated bicone with rounded facets, half the bead is dull-white and the other half is pinkish. (cf. Fig. 102, No. 23).

Crystal

- Fig. 101. No. 43 Two perforations and a 'M'-like section, the cavity possibly meant to contain some coloured matter, the whole probably acted as a central pendent in a necklace.

31. Similar pendants have been found elsewhere also, for instance, Taxila, BECK, *op. cit.*, pl. III, Nos. 12, 13, 36; IV. 25, 27, 31; V. 7; VI. 19, 25, 26; DIKSHIT, M. G. *Beads from Kondapur*, pl. I, No. 19. Also at Nasik, SANKALIA and DEO, *op. cit.*, Fig. 45, No. 15, (opal).

32. DIKSHIT, M. G., *Etched Beads in India*, pl. x, Nos. 21, 22. He classifies this under Pattern 6, and remarks (p. 8): "A chevron within marginal bands is a very common decorative motif in the Southern Group. Beads mostly occur in the megalithic burials but the type continues in the Satavahana period also. Those from the former are generally barrel-shaped but plain cylinders seem to be preferred in the later stage. These are distributed over a very large area and are known to have been found at Bilikambe in the Nilgiris, at Chandravalli, Kondapur, Kolhapur, Maski, Montapalle, Muribetta Hill—Coorg, Paithan, Parvai and Sangankallu".

TERRACOTTA OBJECTS

Glass

- No. 32 Gadrooned barrel bead of deep green glass.
- No. 33 Small barrel, lemon-coloured glass.
- No. 36 Wound glass of dark blue colour.
- No. 44 Barrel bead of deep yellow glass.
- No. 47 Oval shaped, faceted piece of white glass.
- No. 48 Octagonal piece with biconical section. Similar beads are even now used in artificial rings.

Lapis-lazuli

Though the excavated trenches did not yield any bead of lapis, surface survey brought to light three fragmentary beads, two of which are square barrels, and the third a long barrel.

NAVDATOLI

Chalcedony

- Fig. 101. No. 50 Fragment, long barrel, well polished, perforation incomplete.

Chert

- Fig. 101. No. 49 A truncated barrel of ashy-pink-brown colour.

(d) SUMMARY

The discovery of faience and steatite beads in the proto-historic period at Navdatoli, having similarities with those found in the Indus Valley sites and sites from Western Asia and identity of some pottery forms and designs, tend to indicate a possible contact between these regions.

Navdatoli seems to have been a small bead-making site, and square with biconical section was a patent shape.

At both these sites, cheaper material like terracotta was mostly used by the inhabitants of Period VI.

Glass, though known in Period III at Navdatoli, was mostly in use in later periods at both these sites.

IX

TERRACOTTA OBJECTS

A large variety of terracotta objects was found. These comprised hook-like objects, fragments of votive tanks, discs, whorls, toys, figurines, wheels, stoppers, moulds and crucibles.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

HOOKS (?) (FIG. 104, No. 4)

One almost complete and several fragmentary pieces of what appear like fish-hooks or harpoons were found. Of the 27 pieces, 15 are curved hook-ends and the rest middle portions which are cylindrical. All these belong to Period VI.

Most of the pieces are handmade rolls of clay with no finish. The clay contains lot of impurities and is coarse-red in colour. Some betray traces of a thick coating of lime. They taper towards the curved end. The purpose of these is not possible to recognise. It is likely that they served as hooks fixed in the clay walls of a house.

Fig. 104. No. 4 A hook-like object of terracotta with a coating of lime. Length 262, and max. diameter 17 mms. No. 490, MHSR. I. ii. E(3).

WHEELS (Fig. 104, Nos. 8, 9, 11, 12, 13, and 15).

Fifteen specimens were found. Of these, two came from the levels of Period III, twelve from those of Period VI and one belonged to the last period, i.e. Period VII.

Both the specimens of Period III came from NVT, and each one forms a separate type by itself. Of these, one is biconvex in outline. It may be noted in this connection that not many biconvex wheels are reported from the Indus Valley sites. The latter are characterised by wheels with a hub on only one side, the other side being slightly concave¹. The Sumerian wheels² have hubs on both sides. This device has a decided advantage inasmuch as such wheels are reversible in fitting and cause less friction with the body of the vehicle. The Indus wheels, thus, may be taken to represent earlier attempts in the making of hubbed-wheels.

The biconvex specimen from NVT is important from the point of view of tracing the development of hubbed-wheels. It perhaps denotes the intermediate stage between single-hubbed and double-hubbed wheels as, possibly, was the case at Chanhudaro³ where all the three types—single-hubbed, bi-convex, and flat—were found. Due to the lack of stratigraphical details and counts, it may not be possible to arrive at the evolution of these types.

1. MARSHALL, *MIC.*, II, p. 554; pl. CLIII, 34-7; MACKAY, *FEM.*, I, p. 568; VATS, M. S., *Excavations at Harappa*, I, p. 451.

2. *Ibid.*

3. MACKAY, *Chanhudaro Excavations*, p. 165; pl. LVIII, 19-25.

TERRACOTTA OBJECTS

Though no wooden wheels were found at NVT, these terracotta specimens should imply the existence of larger wooden carts, a discovery which is quite in accord with the Chalcolithic stage of human culture.

The wheels of the historic periods (VI and VII), though more in number, are crude in finish. Those of Period VI are distinguished by a coating of lime. Some of these are painted with lines in red ochre indicating spokes.

These can be grouped into four categories as follows.

- (a) without hubs, bi-convex in section, irregular in outline, acentral perforation,
- (b) bi-convex and with hubs,
- (c) thin body and prominent hubs, lime coating and paintings in red ochre,
- (d) one side convex and the other with a thin ringed hub.

The specimen belonging to the last period (Period VII) is a ground top-end of a Red Polished sprinkler.

The following are illustrated.

- Fig. 104. No. 12 A broken specimen, one side flat, the other having raised outline due to the impact of the perforating object which seems to have been thrust from the other side. Diameter 53 mms. thickness 16 mms. No. 1636, NVT. III. v. A(7). Period III.
- No. 11 A wheel without hubs, biconvex in section, acentral perforation, hand-made, coarse-red fabric. (Group 'a'). No. 786, MHSR. II. ii. D(6). Period VI.
- No. 8 A wheel with thick hubs, biconvex in outline, partially perforated at both the sides, yellow-brown surfaces. Diameter 80 mms. and thickness 51 mms. (Group 'b'). No. 805, MHSR. II. ii. E(5). Period VI.
- No. 15 A complete piece with a thinner body and a truncated hub. (Group 'c'). No. 748, MHSR. II. ii. D(5). Period VI.
- No. 9 Unfinished specimen with one side convex and the other having a thin ringed hub in relief. Partially perforated only on the inner side. (Group 'd'). No. 770, MHSR. II. ii. B(6). Period VI.
- No. 13 Top-end of a Red Polished sprinkler with both the surfaces ground to a plano-convex outline. No. 145, MHSR. II. ii. A (1). Period VII.

MOULDS (Figs. 103, No. 11; Fig. 114, No. 8)

Three specimens of terracotta moulds were found. Of these, two could be ascribed to Period VI (200-500 A.D.). The third came from the topmost layer.

- Fig. 103. No. 11 A rectangular piece with a heavy base, tough, black-fired body and slightly tapering sides, has two perforations each on the breadthwise walls, and one each on the lengthwise sides evidently to let the air bubbles slip out when some liquid substance to be moulded is poured down. The mould was intended to turn out flat slabs ($21 \times 14 \times 16$ mms.), the purpose of which is uncertain; length 33 mms., breadth 22 mms., thickness 16 mms. No. 137, MHSR. II. ii. C(3). Period VI.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Fig. 114. No. 8 A more elaborate piece, fashioned to turn out ear-ornaments or pendants having a prominent knob encircled and crowned by dots in relief. The mould is of black clay and well-fired. No. 137a, MHSR. II. ii. C(3). Period VI.

The third is a fragmentary specimen, plano-convex in outline and is expected to turn out pieces of plano-convex shape with a diameter of 13 mms. Period VII. (Unillustrated).

LAMP (Fig. 104, No. 5)

A fragmentary piece of a terracotta lamp was found. So far lamps are known to have been found from the chalcolithic levels at Mohenjodaro⁴, Chanhudaro⁵ and Rangpur⁶.

The specimen from Mohenjodaro has a stemmed base as also perforation along the edge so that it could be placed on the ground as well as hung by means of threads. The Jhangar piece is somewhat similar to that from Mohenjodaro, with the difference that it has no perforations but has a pronounced wick-channel. The Rangpur lamps, belonging to Phases II and III, have no flat base and hence look more like bowls equipped with channelled tips.

The NVT specimen is altogether different. It is neither equipped with a stemmed base, nor does it conform to the bowl-type lamps of Rangpur. It, being flat-based⁷, could be kept anywhere, unlike the Rangpur specimen which has sagging base.

Fig. 104. No. 5 A fragment, coarse red fabric, somewhat flat-based, raised edges, no wick-projection extant, thick, tapering sides, hand-made, possibly oval on plan. Breadth 69 mms., length 80 mms. No. 9552, NVT. I. i. C(6). Period III.

STOPPERS

Eighty-one terracotta objects of various shapes but conforming to the general nature of stoppers were found. It may be noted that unlike simple pottery discs, described below, these objects are fashioned deliberately for use. These resemble similar objects found at several sites in India and it is generally now agreed that they were possibly used as stoppers.

4. MACKAY, *FEM*, pl. LXVI, No. 47.

5. MACKAY, *Chanhudaro Excavations*, pl. XXXIX, 14.

6. M. G. DIKSHIT, *Excavations at Rangpur*, *BDCRI*, Vol. XI, pp. 48-49.

7. The recent excavations at Nevasa have yielded several lamps from Chalcolithic levels. These are flat-based and oval on plan, and are endowed with a wick-channel and a projection.

TERRACOTTA OBJECTS

The specimens can be grouped as under:

- (a) tapering cylinders or truncated cones with concave top,
- (b) similar to above but perforated near the tapering end, possibly to pass a thread through so that the stopper could be pulled out, if fixed hard,
- (c) cylindrical with concave sides,
- (d) discs with or without concave sides,
- (e) long cylinders, and
- (f) those having a broad, flat or concave top and a thin stem.

Their distribution is like the following.

Type	PERIODS					
	III	IV	V	VI	VII	Surface
a	1 N	14 N + 1 M	1 M	13 M	9 N + 1 M	—
b	—	3 N +	—	1 M	3 N	—
c	2 N	1 N + 1 M	1 M	3 M	6 N	1 M
d	—	4 N + 1 M	1 N + 3 M	2 M	1 N	—
e	1 N	1 N + 1 M	—	1 M	—	—
f	—	—	—	3 M	—	—

(N = NVT ; M = MHSR)

The diameters, height and thickness (in mms.) of the above different types are shown in the table below:

Types	Diameters	Height	Thickness
a	65—7	57—27	—
b	26—11	37—17	—
c	25—17	22—14	—
d	67—28	—	17—16
e	33	13	—
f	23	41	—

The range of diameters indicates that stoppers were made and used for containers having mouths of different diameters. They show a variety of workmanship also. For instance *Type 'e'* seems to have required the cutting into requisite lengths rolls of clay, while disc-shaped stoppers had to be shaped to suit a broad mouth. It is also likely that all these pieces might not have been used only as stoppers. *Type 'b'*, for example, might have been used also as crude pendants by passing the thread through the perforation.

None of these is illustrated.

POTTERY DISCS

Of all the terracotta objects, unperforated pottery discs were the most abundant. Of a total of 124 pieces, seven are either unstratified or surface collections.

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There are some notable features of this group of objects. Firstly, they are found in the layers of all the periods, right from the Proto-Historic to the Muslim times. Secondly, almost in all the cases, they consist of cut and ground pieces of waste pottery. Thirdly, these conform to a graded series of fixed weights and hence possibly suggest their use as weights. Fourthly, some specimens whose surfaces are roughened by the use of siliceous matter might have been used as skin-rubbers. Fifthly, some discs are cut out of tiles and *panti*-bases. And lastly, though it is tempting to suggest that they were used as weights, the fact that most of these are in a worn out condition and hence their present weights might not have been the same, cannot be overlooked.

Their periodwise distribution along with the graded weight-series is as follows.

Period III

In all 15 specimens, all from NVT, all cut from painted pottery of Jorwe fabric, weights : $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $1\frac{1}{4}$, $2\frac{1}{2}$, $3\frac{3}{4}$, and 5 tolas.

Period IV

Fourteen from NVT and 11 from MHSR, the former cut out of painted pottery, Black Burnished and the Black-and-Red ware ; NVT : $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, $2\frac{1}{2}$ and $2\frac{3}{4}$ tolas ; MHSR, $\frac{1}{4}$, $\frac{1}{2}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$, $3\frac{3}{4}$ and 5 tolas.

Period V

Five from MHSR, 1, $1\frac{3}{4}$, and $7\frac{3}{4}$ tolas, one of the pieces is a well-ground base of a *panti* with an incised *svastika*.

Period VI

57 pieces, all from MHSR ; $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, $2\frac{1}{4}$, $2\frac{1}{2}$, $2\frac{3}{4}$, 3, $3\frac{1}{4}$, $3\frac{3}{4}$, 4, $4\frac{1}{2}$, 5, $5\frac{1}{2}$, 6, $6\frac{1}{2}$, $6\frac{3}{4}$, 7, $7\frac{1}{4}$, $8\frac{1}{2}$, 9, 11, $11\frac{1}{2}$, $11\frac{3}{4}$, $12\frac{3}{4}$, $16\frac{1}{4}$ and 21 tolas.

Period VII

18 pieces, NVT 17, discs out of earlier wares, NVT : $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2 and 6 tolas ; MHSR : $4\frac{1}{4}$ tolas.

PERFORATED DISCS

Four specimens with double perforations were picked up in the excavations. Of these, one was a surface collection, and of the rest, one each belonged to Periods IV, V and VII. All these came from NVT. These might have been used as playthings by passing a double thread through each of the perforations. These are worn out pottery pieces. None of these is illustrated.

PULLEY-SHAPED OBJECTS

Pulley-shaped objects in glass and bone have been referred to elsewhere. Similar objects made of terracotta were found at Maheshvar. One each of these belongs to Periods V and VI respectively.

TERRACOTTA OBJECTS

As suggested, these might have been used as decoratives in the ear-lobes.

PLAYING MARBLES

Six small, round terracotta pieces possibly used as playthings, were found. Of these, three came from layers of Period III at NVT.

Play-marbles are reported from Mohenjodaro also⁸. There they were made of terracotta, shell, stone, paste and faience, and some specimens were well decorated.

The technique of making these was very simple. Handmade balls of clay were prepared and then fired. The diameters of the Proto-Historic specimens vary between 12 and 17 mms.

VOTIVE TANKS (Fig. 104, Nos. 1, 2).

Fragmentary votive tanks of two varieties were found both at NVT and MHSR. The types comprised plain and lamped varieties.

The date proposed for these tanks on the basis of stratigraphy (Period VI, i.e. 200-500 A.D.) goes well with the evidence from numerous other sites in India. For instance, at Taxila⁹ simple bowl-shaped votive tanks were reported from the 3-2nd century B.C. levels of Bhir Mound, while other varieties persisted even in the Saka-Parthian deposits of Sirkap. At Hastinapur, the musician type occurs in period IV which can be dated to the early centuries of the Christian era¹⁰. Ahichchattrā shows first acquaintance with them in C. 100-200 A.D.¹¹ Besides Bhita and Rairh¹², votive tanks have been reported at Nala Sopara¹³ and Nevasa in the Deccan. A doubtful and unstratified piece comes from as far south as Arikamedu¹⁴. The recent excavation at Nevasa in the State of Bombay has yielded a squarish piece with seven steps. It was found associated with the levels of the Indo-Roman period yielding the Red Polished ware. So far, therefore,

8. MARSHALL, *MIC*, pp. 552-53; pl. CLIII, 3-6 and 12-15.

9. MARSHALL, *Taxila*, Vol. II, pp. 463 ff. pl. 136. Also, GHOSH, A., *Anc. Ind.* No. 4 1947-48, p. 78, p. XVII; *ARASI*, (1924-25), p. 50.

10. LAL, B. B., *Anc. Ind.* Nos. 10 & 11 (1954-55), p. 87; pl. XLII, No. B.

11. AGRAWAL, V. S., *Anc. Ind.* No. 4 (1947-48), p. 125-6.

12. PURI, K. N. *Excavations at Rairh*, pp. 11, 44.

13. Deccan College Collection (with lamps).

14. *Anc. Ind.* No. 2, p. 103, pl. XXXV, 5.

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the evidence shows that votive tanks were introduced by the Parthians in India. Not only that but the association of these with the older cult of the Mother-Goddess "whose worship in some Iranian form was introduced by the Parthians into Gandhara", shows that the entire conception is foreign in origin.

The NVT-MHSR specimens show two groups, to wit :

- (a) plain (2)
- (b) with lamps (4)

The former are solely restricted to layers of Period VI while the latter occur both in VI and VII. It is certain that the specimens from Period VII really belong to an earlier date?

The lamped variety has a parallel from Bhir Mound, Taxila, where it has been assigned to 3-2nd century B.C. by MARSHALL. AGRAWAL, however, is inclined to place them in the early centuries of the Christian era on the basis of Ahickehhatra evidence. The NVT-MHSR specimens support the latter view.

- Fig. 104. No. 1 Fragment, possibly squarish on plan, somewhat convex walls, in one corner four steps shown by impressing a band of clay with fingertips one above the other, flat base and edge, coarse red fabric, hand-made. Period VI.
- No. 2 Fragment, thin-sided, with a shallow lamp affixed on the edge, possible shape—a bowl with flaring sides. Period VI.

SKIN RUBBERS (FIG. 103, Nos. 2, 3, 19, 20)

One surface and five stratified pieces of skin rubbers were found. Skin rubbers have a wide range in date and space. They have been reported at the Indus Valley sites. They were in use during the Mauryan period at Nagda, Hastinapur, Taxila, Tripuri, Bhita and other sites. Early Andhra or Satavahana levels have yielded these at Nasik, Bahal, Karad, Nevasa and Ujjain. They existed even in the early centuries of the Christian era as at Sirkap. They run down right through the Maratha period to the present day.

A study of the flesh rubbers shows a wide range of shapes. The earliest specimens coming from the cemetery at Kish consisted of simple pieces of whitish sandstone¹⁵. The Indus specimens¹⁶, however, were made of terracotta as well as of stone. The shapes of these were either barrel or rectangular, the former being not abundant. The terracotta rubbers are remarkable in the sense that their clay was mixed with lime or sand to make the surface rough. Besides such roughening material, rectangular pieces were incised

15. MARSHALL, *MIC*, Vol. II, p. 468.

16. *Ibid.*, pp. 467-8 ; pl. CXXXIII, 14-17.

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with oblique lines or pricked by dots. The Chanhudaro¹⁷ rubbers are oval in shape with a flat base and are made of stone.

Coming to the historical period, we find that the specimens from Bhir Mound, Taxila¹⁸, do not show much variation from that of the earlier specimens. The practice of mixing sand, *bajri* and lime with clay in the preparation of skin rubbers still continued. Late specimens from Taxila are flat squares or oblong tablets roughened on one or both sides. Some of the rubbers are equipped with a loop handle, while some have incised cross lines or cuneiform depressions. Brahmagiri¹⁹ specimens consist of circular pieces of trap rock or of granite. Rairh and Bairat²⁰ yielded round and rectangular pieces whose surfaces were made rough with granite powder. The circular and square pieces of terracotta which betray an imitation of pumice stones due to their lightness of weight, are reported from Sambhar²¹. The square or rectangular pieces with pricked dots and broad incisions were quite common at Nasik. Besides these, a hollow semi-circular type resembling the cut mango-seed, still used as head-scratcher in villages in the Deccan, were notable pieces²².

The above details point out to the conclusion that the barrel-shaped pieces went out of vogue in the historical periods, and their place was taken by rectangular and thick pieces with incisions. During the late medieval times, metal was used in the preparation of skin-rubbers²³.

The skin-rubbers from Maheshvar belong to Periods IV and VI. They are either rectangular or disc-shaped.

The former can be sub-divided into three categories as illustrated in Fig. 103.

- No. 2 Rectangular piece, surfaces with chevron incisions, length 80, breadth 53 and thickness 25 mms. Surface. (Subtype '1a').
- No. 20 Rectangular in shape, irregular broad chevrons, surfaces made rough by fashioning the piece on fine silica, length 88, breadth 77 and thickness 22 mms. No. 419, MHSR. V. i. A(3). Period VI. (Subtype '1b').

17. MACKAY, *Chanhudaro Excavations*, pp. 11, 229, 230; pls. LXXXIX, 27; XCI, 41; XCII, 12, 16.

18. MARSHALL, *loc. cit.*

19. *Anc. Ind.*, No. 4, pp. 253-45; pl. CXVI, 6; CXVII, 15.

20. PURI, K. N., *Exc. at Rairh*, pp. 11, 42; pl. XXI, 24.

21. SAHNI, *Exc. at Sambhar*, p. 52; pl. XII, C.

22. SANKALIA and DEO, *op. cit.*, Fig. 48, 5-7.

23. KARVE, C. G., *Bhārat Itihāsa Samśodhaka Maṇḍal*, Special No. Dec. 1948, pp. 88-89.

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- No. 19 Rectangular, shallow chevrons covered by neat round incisions giving the piece an appearance of a sponge, length 89, breadth 67 and thickness 22 mms. No. 985, MHSR. II. ii. A (3). Period VI. (Subtype '1c').
- No. 3 Disc-shaped with the surfaces made rough by silica. Diameter 65 and thickness 24 mms. No. 640, MHSR. II. ii. C(4). Period VI. (Type 2).

CRUCIBLES (Fig. 104, No. 14).

Two crucibles were found of which one was in a fragmentary state. Both these belong to Period VI.

Fig. 104. No. 14 A small, squat, thick-sided specimen with a flat base, brownish clay, hard-baked, inner surface shows traces of glass enamelling. Diameter 42, thickness 6 and depth 24 mms. No. 750, MHSR. II. ii. C(4). Period VI.

The unillustrated specimen is of the usual type—hollow, with round bottom and straight high sides,—found at so many sites.²⁴ Both its surfaces are enamelled.

BANGLES

Besides shell, bone and glass, terracotta also seems to have been used for bangle making. It is to be noted that these come from the levels of Period VI when bangles of glass and shell were more abundant.

None of these is either complete or illustrated. Of these, one is fashioned out of a roll of clay circular in section and has a diameter of 55 mms. The other is plano-convex in section and has a breadth of 4 mms.

HANDLES (Fig. 103, Nos. 1 and 8).

Only two pieces were found. One of these came from the layer of Period VI at MHSR. The other came from NVT. This indicates the use of vessels with handles in Period III.

- Fig. 103. No. 1 It is of a coarse red fabric, convex in outline with three deep, parallel and vertical grooves on the outer flat surface of the handle. It seems that this was fixed to a pot independently before firing. No. 1993, MHSR. II. ii. C(5). Period VI.
- No. 8 A thick, round piece, 25 mms. in diameter, of a black gritty core and has a greyish slip similar to the urn fabric from Jorwe. The clay contains abundant silica and grass used as degreassant. No. 1487, NVT. I, i. E(4). Period III.

FINIALS (Fig. 103, No. 10)

Two objects which look like—and are most probably—finials were found at MHSR, and could be ascribed to Period VI. Pottery finials have

24. SANKALIA and DEO, *op. cit.*, pl. XXII, 9.

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been reported from Bairat²⁵. These, however, are more elaborate and decorative as compared to the Maheshvar specimens.

Fig. 103. No. 10 A tapering dome in outline and pointed at the top, has a collared base and a hollow interior. The piece was evidently fashioned on a wheel and cut at the base by means of a string. The specimen bears a lime coating all over. Height 93 mms. diameter 82 mms. No. 1731, MHSR. II. ii. B(4).

The other piece is smaller in size and has a chocolate slip.

TERRACOTTA FIGURINES (Fig. 105, Nos. 1, 2, 3, 4 and 5).

A group of six fragmentary and headless figurines was found in the layers of Period VI at Maheshvar. Of these, three are distinctly mother-and-child figurines, one a male, and two, though fragmentary, are most probably female figurines belonging to the mother-and-child group.

AGRAWAL has classified similar specimens from A.D. 550-650 levels at Ahichchhatra²⁶, into *Kshīradhātī*, *Āṅkadhātī* and *Krīdādhātī*. The Maheshvar figurines fall into the second category. The resemblance is applicable both to typology and period.

GORDON, on the basis of Mathura terracottas²⁷ comes to the conclusion that the mother-and-child type "does not appear until the Kushan period". The evidence from Ahichchhatra and Kosambi shows their profusion in the late phases of the Gupta period. The Maheshvar figurines also confirm the above evidence. Their moderate relief, the use of a single mould, the complete lack of freedom of limbs such as hands and legs which are shown in a rigid style²⁸, ascribe them to the Gupta style.

Since the figurines under study are fragmentary as also of one type, they do not show any variety of drapery and coiffure. All these show the trefoil coiffure which has contemporary parallels from Ahichchhatra and Kosambi²⁹.

The solitary male figurine is remarkable for the depiction of the muscular body of a gymnast.

25. SAHNI, R. D., *Archaeological Remains and Excavations at Bairat*, p.30, (pl. V, i).

26. *Anc. Ind.*, No. 4, p. 147.

27. *JISOR.*, XI (1943), p. 156.

28. AGRAWAL, *op. cit.*, p. 137.

29. KALA, S. C., *Terracotta Figurines from Kosambi*, pl. LIV, fig. 2. For a detailed discussion of the variety of coiffures of terracotta figurines of the Gupta period from Rajghat, See, AGRAWAL, V. S., *JUPHS.*, Vol. XIV, pt. I, July (1941), pp. 1-8.

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The illustrated specimens are as under.

(a) *Mother-and-child*

- Fig. 105. No. 1 A headless figurine of a standing mother-and-child, cast from a single mould ; the mother's right arm hanging down and the other bent at right angles and supporting the child ; the child's left arm rests on its left thigh ; the child's hair appear to have been arranged in trefoil fashion ; the mother has so worn the *sāri* that a large part of it hangs down in a loop almost touching her left ankle. In such a fashion, the right shoulder seems to have remained bare. Brownish-red in front, blackish at the back ; no slip or wash of anything, 152 mms. in height. No. 831, MHSR. II. ii. G(4).
- No. 2 Similar to above with the difference that the child touches the mother's breast with its left hand ; the child's hair seem to have been arranged in a knot over its head ; it seems that the mother wears a necklace of which some traces are visible ; style of wearing *sāri* similar to that of No. 1 above ; coarse, brown-red colour. 71 mms. in height. No. 632, MHSR. II. ii. D(5).

(b) *Fragmentary*

- No. 4 Fragment of a female figurine with the right palm and legs from the thigh intact ; cast from a single mould ; the feet indicated by a vertical shallow groove ; original fabric coarse red-brown ; traces of a yellow wash all over the body ; probably similar to the mother-and-child group, but having the lower portion of the body including the legs, shown in a more tapering fashion. 67 mms. in height. No. 787, MHSR. II. ii. B(4).
- No. 3 Fragment of probably a female figurine cast from a single mould with only the halo and trefoil coiffure intact ; brown-red colour, core containing particles of silica ; the trefoil coiffure indicates that it may have affinity with the mother-and-child figurine, No. 831 above, in which the child's coiffure is similar. 30 mms. in height. No. 701, MHSR. II. ii. D(5).

(c) *Male Figurine*

- No. 5 Torso of a light brown-grey male figurine cast from a single mould showing well-proportioned chest and abdomen, and somewhat disproportionate arms hanging down ; the figure is wearing a tight-fitting loin-cloth ; may be a gymnast ; traces of a yellowish-white slip. 47 mms. in height. No. 825, MHSR. II. ii. C(5).

Toys (Fig. 103, Nos. 4, 5, 9, 12, 13, 14, 15, 18, 21, 22; Fig. 104, No. 7)

Terracotta toys were found in the layers of Periods III, IV, VI and VII. These consist of figurines of birds, bulls, rams, elephants, horseheads and a fragmentary sword.

All these are handmade. The toys of Periods VI and VII are characterised by the coating of lime all over, over which sometimes painting was done in red ochre. The rest are brown-red in colour and show mixture of straw and sand in clay. Most of these are crudely made and do not show traces of slip or any other finish.

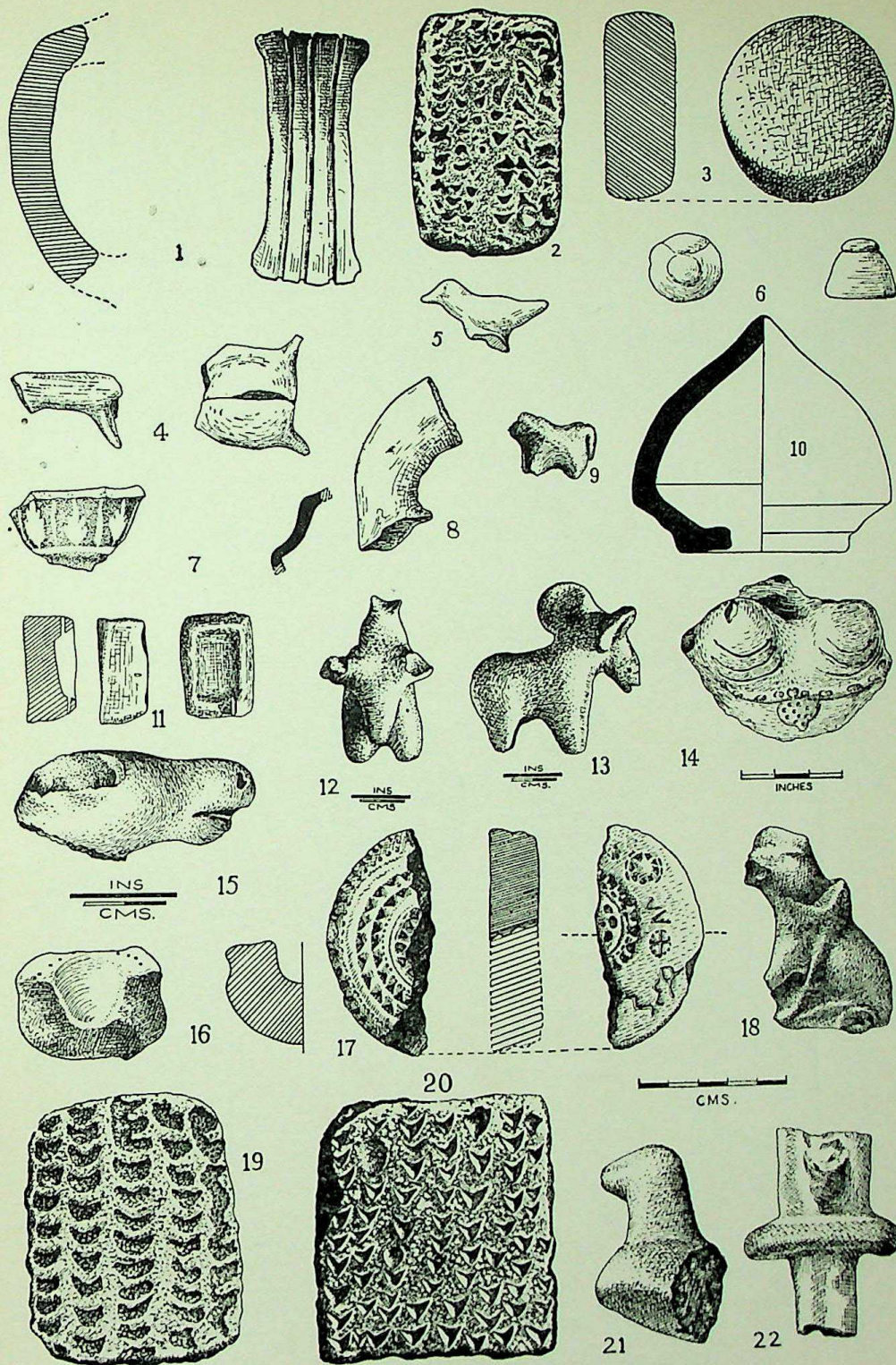


Fig. 103 Terracotta Objects. (See pp. 193, 199, 200, 202, 204, 205)

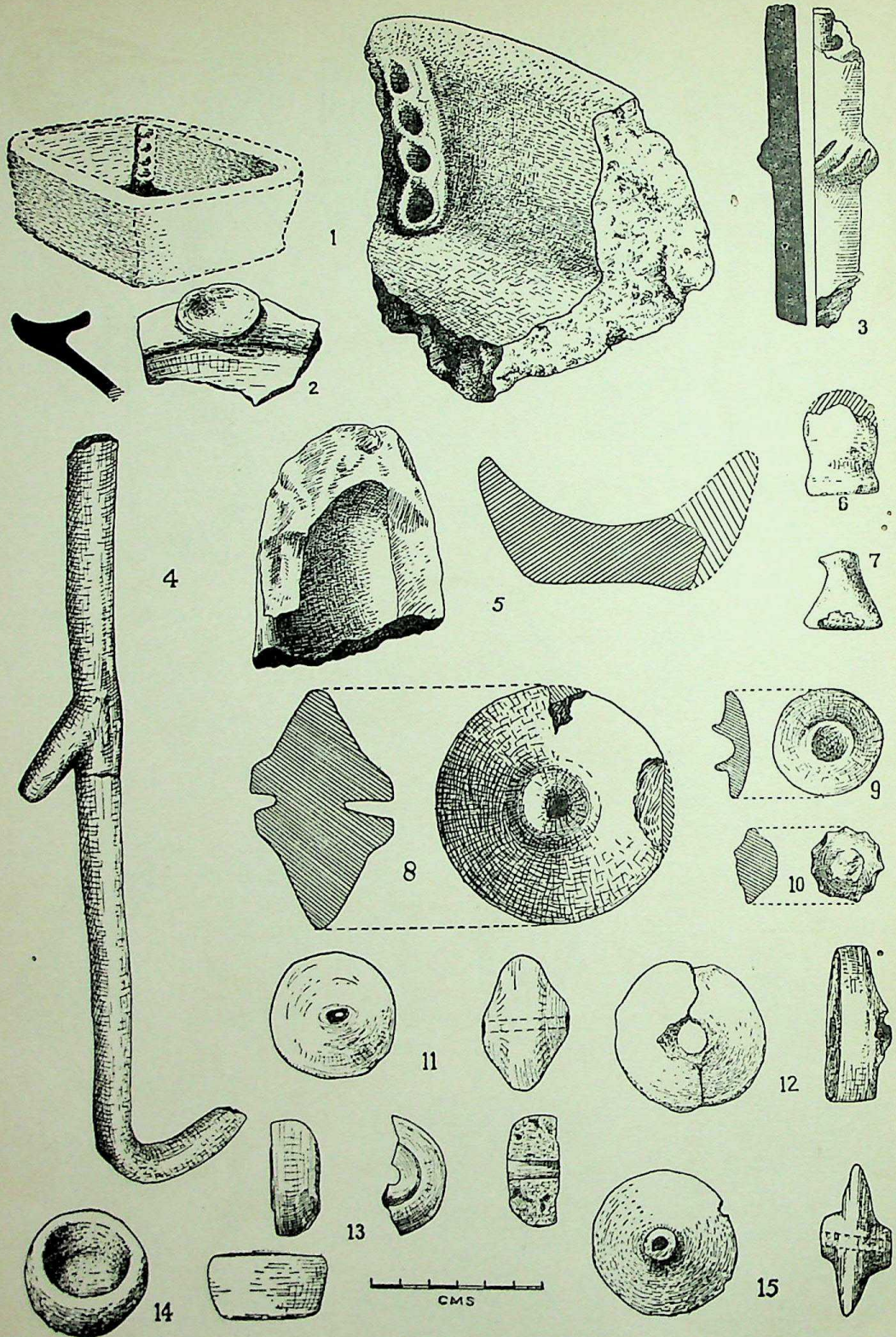
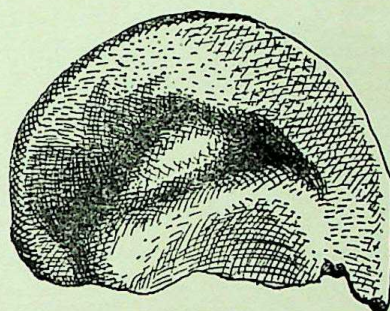
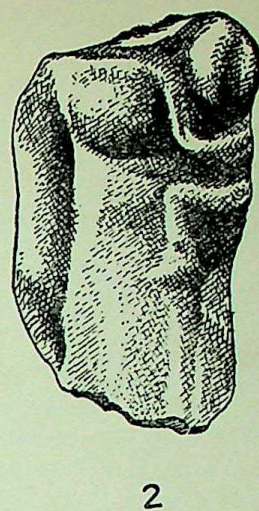
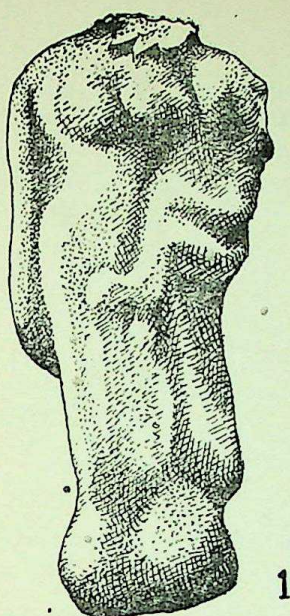


Fig. 104 Terracotta Objects. (See pp. 192-94, 197, 200, 203-205)



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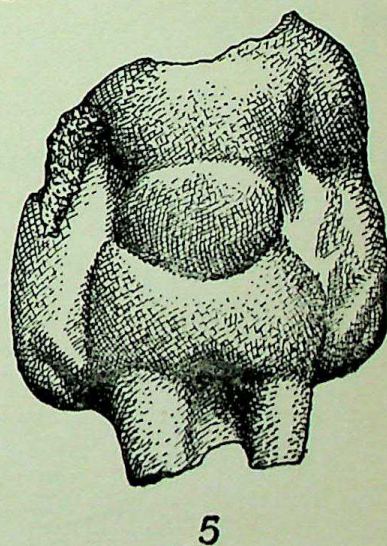
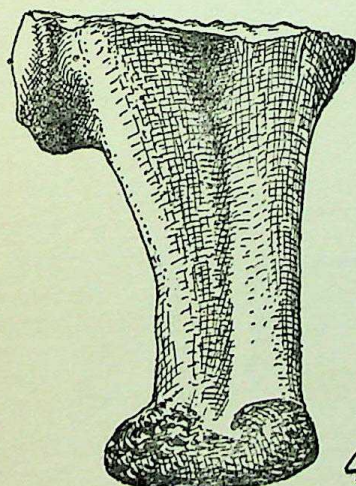


Fig. 105 Terracotta Figurines. (See p. 202)

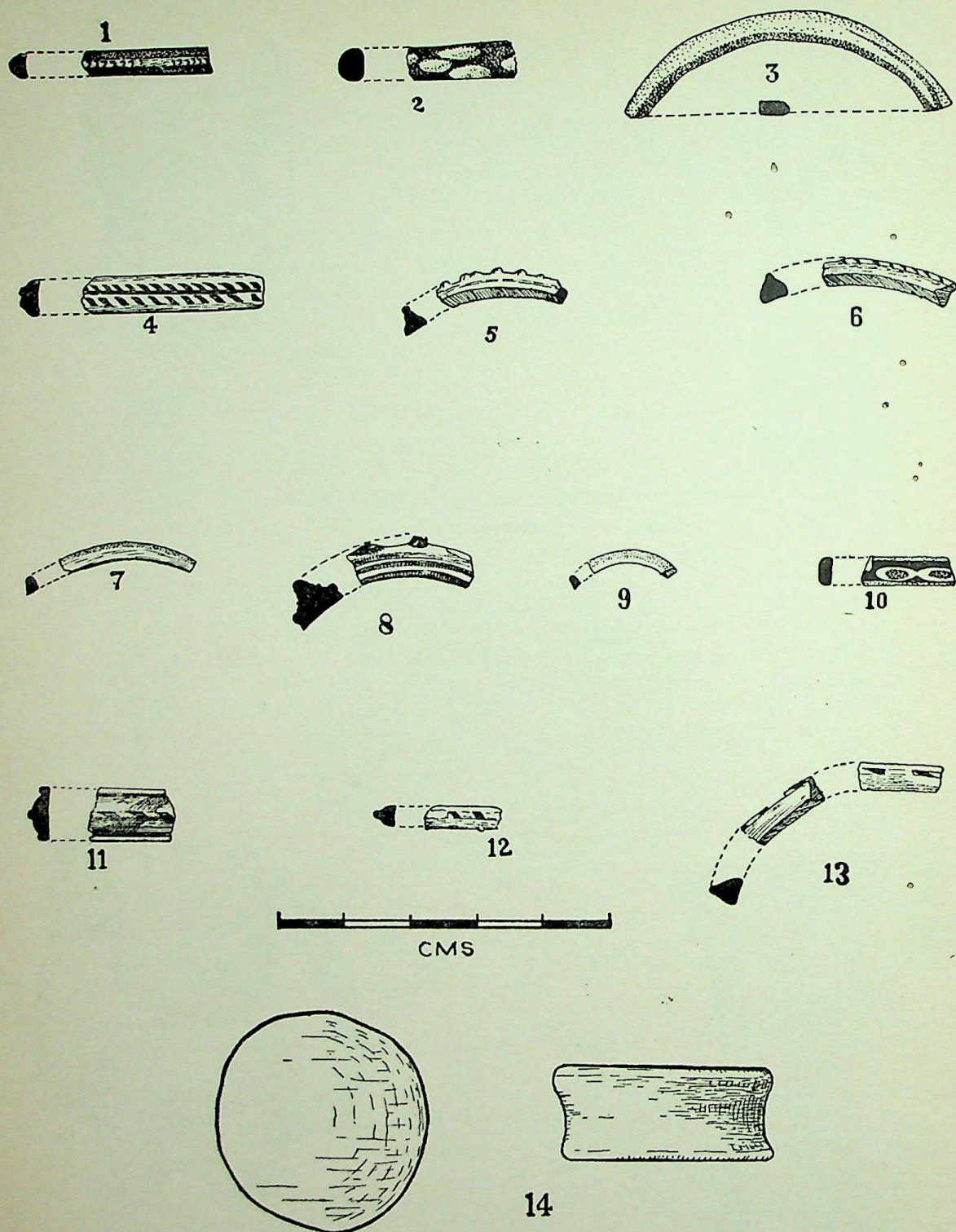


Fig. 106 Polychrome glass bangles (Nos. 1-8, 10-13); Glass Ring (No. 9); Glass Disc (No. 14) (See pp. 217-18)

TERRACOTTA OBJECTS

Of all these, the bird-figurines of Period III from NVT are remarkable. These are flat-based, beaked bird figures, which are possibly connected with the dove figurines associated with the cult of the mother-goddess as suggested by MACKAY and CHILDE³⁰ on the basis of the evidence from Crete, Sumer and Indus Valley. Another interesting specimen from this period is a tiny bull with tail shown in an applique method so characteristic of the Indus Valley figurines. Throughout Sind, Baluchistan and the Punjab, better specimens of terracotta bulls of better execution but belonging to the chalcolithic period have been known³¹. On the basis of this, MARSHALL suggested the possible existence of an early and independent cult revering the bull which later on merged in Śaivism³². The absence of a reasonable number of these as also that of Śaiva remains at NVT rule out the possibility of such cult-associations.

Only the better specimens are illustrated.

- Fig. 104, No. 7 Intact specimen, flat base, beak and head only depicted, possibly a dove, coarse red surface. No. 3027, NVT. I. i. B(7). Period III. ✓
- No. 4 A tortoise with one of the legs and the mouth broken, flat back, the entire piece is convex, handmade. Diameter 37 and thickness 6 mms. No. 4149, NVT. III. iv. (3). Period IV.
- No. 5 An almost intact specimen of a sparrow, with a prominent beak, plump stomach, tapering rear, lime wash all over the body. No. 265, MHSR. II. ii. A(1). Period VII.
- No. 9 Fragmentary specimen of a bull with stumpy legs, tail in applique method, hard-baked and black. Length 31, thickness 14 and height 19 mms. No. 1322, NVT. I. i. H(6). Period III.
- No. 12 Half a fragment of a bull with prominent hump, portion of the mouth and one of the four legs extant. No. 579, MHSR. II. ii. C(4). Period VI.
- No. 13 A complete ram with prominent twisted horns, eyes indicated by fine incised circles on both sides below the ears, the nose by two close holes, the mouth by a sectional cut; just above the nose is a hole possibly to pass a thread through, black. No. 651, MHSR. II. ii. C(5). Period VI.
- No. 14 Fragment of the temples of an elephant, temples encircled by a chain-ornament, painted white all over, the ornament with a pendant shown in relief and with incised dot decoration, the piece is possibly a part of a Gaṇeśa image.³³ No. 862, MHSR. II. ii. A(3). Period VI.

30. MACKAY, *FEM.*, Vol. I. pp. 295-6.

31. MACKAY, *op. cit.*, pp. 308-11.

32. MARSHALL, *MIC.*, Vol. I, p. 72.

33. Stone images of Gaṇeśa also belong to this period. See p. 242 below. For an image with protruding temples and rows of chain ornaments, See BANERJEA, J. N., *The Development of Hindu Iconography*, (Calcutta, 1946), *frontispiece*, which comes from Khiching, Orissa, and belongs to the medieval period.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- No. 15 Fragmentary head of a horse with the ears and the body broken, the nostrils shown by a pair of holes and the mouth by a cavity showing that it is open, coated with lime, the reins shown in red ochre. No. 233, MHSR. II. ii. D(2). Period VI.
- No. 18 Fragmentary, possibly a saddled horse. No. 234, MHSR. II. ii. D(2). Period VI.
- No. 21 Fragment, toy-bird with a high neck and beak, possibly a pigeon, flat base with a perforation to pass a thread through, traces of lime coating. No. 730, MHSR. II. ii. C(5). Period VI.
- No. 22 Fragmentary sword, cast from a single mould with part of the hilt and blade intact. No. 729. MHSR. II. ii. C(5). Period VI.

EAR-ORNAMENT (Fig. 104, No. 10)

A solitary piece belonging to the Proto-Historic levels at NVT is probably an ear-ornament. Ear or nose-ornaments with a round and decorated or plain exterior and a stem have been found at Harappa³⁴, Chanhudaro³⁵ and Mohenjodaro³⁶ where faience was a favourite material for these. Even the gold specimens from Mohenjodaro have a stem for inserting into the perforated ear-lobe or nostril. The NVT specimen is simpler in design with traces of a stem at the back.

Fig. 104. No. 10 An ear-ornament, plano-convex in section, on plan looking like a flower, core grey-brown, ill-baked. Diameter 5 mms. No. 534, NVT. II. iii. (13). Period III.

DECORATED TABLET (Fig. 103, No. 17)

A fragmentary piece of a decorated tablet was found. It resembles to the one of glass or bone described elsewhere. It is likely that this piece had some votive significance and might have been used either as a seat or a halo behind an image.

Fig. 103. No. 17 Fragmentary disc bearing incised dotted circles, rosette and random decorations some of which appear like Brāhmī letters. Diameter 74 and thickness 19 mms. No. 421, MHSR. II. ii. C(3). Period VI.

SPOUTS (Fig. 103, No. 7; Fig. 104, No. 3)

Four fragmentary spouts were found. Of these, three belong to Period VI and one to Period VII. The former came from MHSR and the latter from NVT.

34. VATS, M. S., *op. cit.*, Vol. II, pp. 445-6; pl. CXXXIX, 8-14, 21-23.

35. MACKAY, *op. cit.*, pp. 197-8; pl. LXXVIII, 8, 10, 11, 16.

36. MACKAY, *FEM.*, p. 532, pls. C, 12; CXXXVI, 90, 91. MARSHALL, *MIC*, p. 528.

TERRACOTTA OBJECTS

- Fig. 104. No. 3 A long cylindrical spout with a rope design in relief on the outer surface. No. 1182, MHSR. II. ii. G(2). Period VI.
- Fig. 103. No. 7 Fragmentary, jet black outer surface with flower design in squares painted in grey-white. The inner surface has some jet-black burnt substance sticking to it, possibly a *chilam* piece. No. 232, MHSR. II. ii. C(3). Period VI.

TILES

Several fragmentary tiles were found in the layers of Periods V and VI at Maheshwar. These imply the existence of roofed houses to the rafters of which such tiles were fixed by means of iron nails.

Similar tiles have been found at several sites in the Deccan, Khandesh and Central India where they belong to the Satavahana period. These have grooves on the upper surface, perforations for the nails and a groove to fit in with the adjoining tile. They are generally of coarse clay mixed with straw and sand.

The extant maximum breadth of the Maheshwar pieces is 150 mms. and thickness varies between 21 mms. and 31 mms.

None of these is illustrated.

MISCELLANEOUS OBJECTS (Fig. 103, Nos. 6, 16; Fig. 104, 6.)

Besides the objects described above, several others, fragmentary or of an unidentifiable use, were found. These comprise of small balls, small *damaru*-shaped pieces, heart-shaped ground pottery pieces possibly used for decorative purposes, plano-convex pieces and perforated fragments.

Of these, the following are noteworthy and hence illustrated.

- Fig. 103. No. 6 A conical object with a flat base and a groove round the nipple-like apex. Made of black clay, it might have been used as a piece in some such game as chess, etc. No. 231, MHSR. II. ii. C (4). Period VI.
- No. 16 A round-based, thick-sided piece with a shallow depression, the top flat and with eleven perforations enclosing the depression, these seem to have been made with a sharp, round wire-end when the clay was wet. Since the outer bottom is jet-black and sooty, the piece might have been used to melt something. No. 4154, NVT. II. iii. B. Period IV.
- Fig. 104. No. 6 A concave-based object with a round bulbous top with a groove just above the base. Use possibly the same as that of the above. No. 488, MHSR. II. ii. D(3). Period VI.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

X

METAL OBJECTS

Most of the objects of copper, lead and iron were found in a fragmentary and encrusted condition. Most of these are either objects of offense or of everyday use.

COPPER OBJECTS (Figs. 108 and 109).

Those coming from Navdatoli trenches comprise of wire pieces, fragmentary rods, kohl-sticks, pokers, chisels and hooks.

Stratified Collection

Of the eight, two belong to Period III, and three each to Periods IV and VII.

The important ones are described below.

- Fig. 108, No. 1 A long copper rod with one end tapering to sharpness, with square section and the other end bulbous and unperforated, possibly a copper poker¹ with a maximum thickness of 3mms. and a length of 119 mms. No. 395, NVT. I. i. E(2). Period IV.
- No. 8 Possibly a fragmentary ring with a diameter of 18 mms. and a thickness of 1 mm. No. 87, NVT. II. iii. A(1). Period VII.
- No. 9 A piece of curved copper wire of a thickness of 1.5 mms. with both the ends intact. No. 1481, NVT. I. i. A(2). Period IV.
- No. 15 Two fragments of a thin copper wire somewhat bulbous at both the ends, (thickness 1 mm. with encrustation), purpose uncertain. No. 3022, NVT. I. i. E(4). Period III.
- No. 16 A tiny tablet-shaped piece of copper with a diameter of 5 mms. and a thickness of 2 mms. It is a solid, unperforated piece and might be an unfinished bead. No. 3241, NVT. I. i. C(7). Period III.

Surface Collection

These come from the untapped Mound IV, which, on surface survey, yielded anvil-stones and microliths. Moreover, Navdatoli trenches were marked by the conspicuous absence of finds from the levels of Periods V and VI. It will, therefore, be not wrong if this surface collection is ascribed to an early period. Another corroborating evidence strengthens the observation since chisels and hooks have been found from the chalcolithic layers at Nevasa and the sites from the Indus Valley.

1. Exactly similar poker of copper was found in the chalcolithic layers at Nevasa during the 1955-56 excavations.

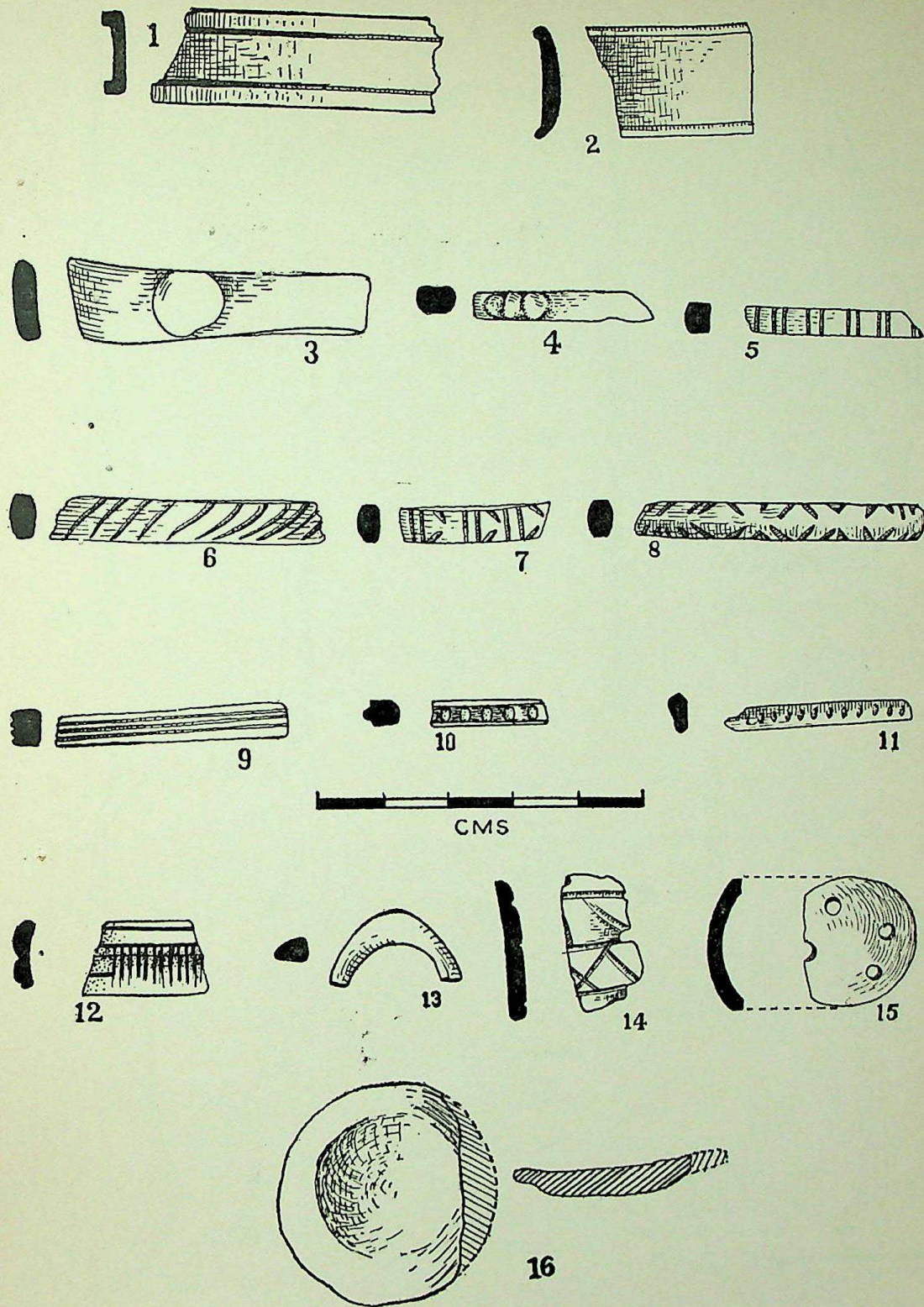


Fig. 107 Objects of Shell : Bangles (Nos. 1-12); Ring (No. 13); Miscellaneous (Nos. 14-16). (See pp. 231-32)

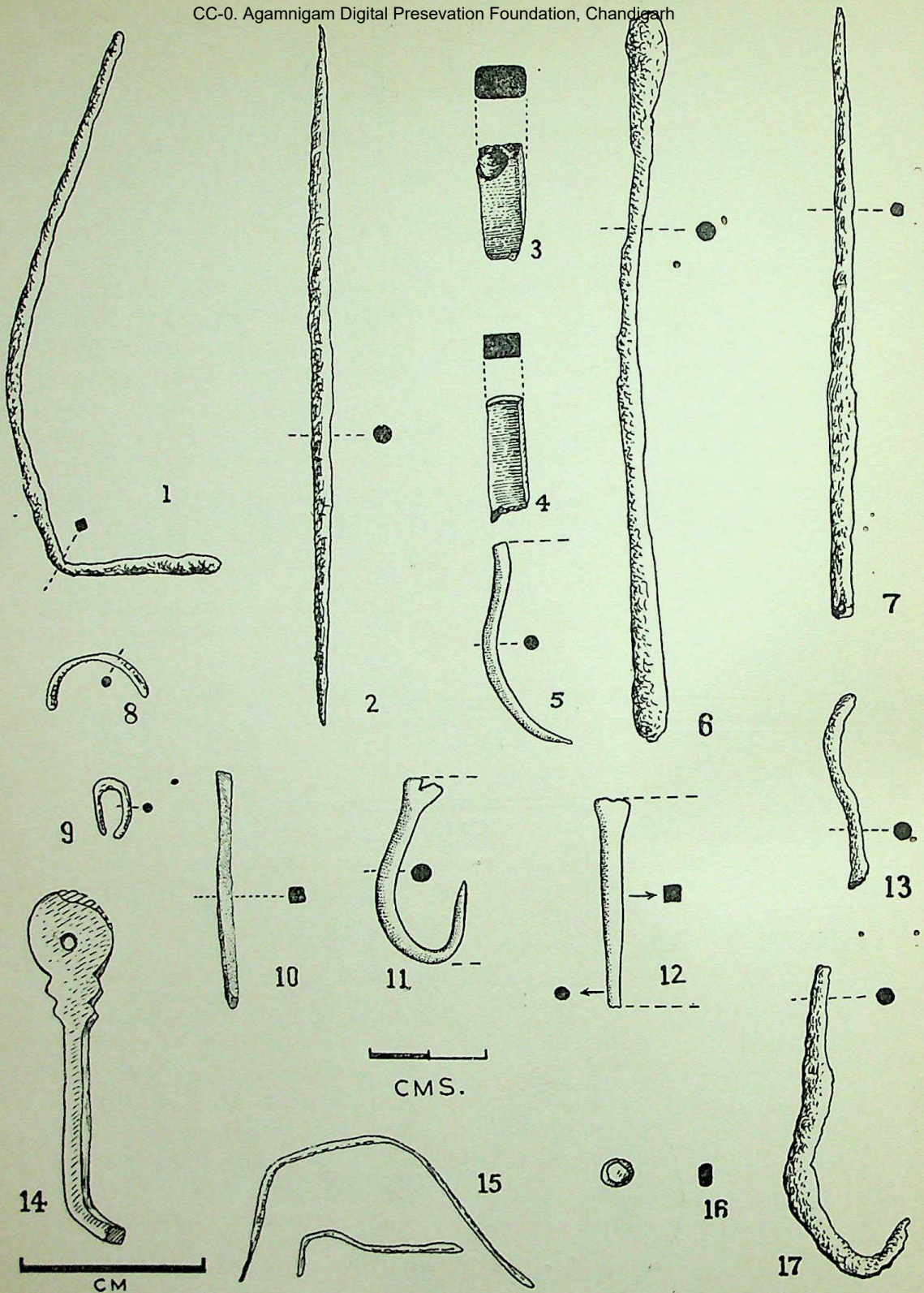


Fig. 108 Copper Objects: Chisels (Nos. 3, 4, 10, 12); Hooks (Nos. 5, 11). (See pp. 206-09)

METAL OBJECTS

The six surface specimens comprise four intact and two fragmentary pieces, the latter possibly pieces of one and the same object. Of the six objects, two are hooks, three chisels and one a double tool, viz., a chisel-cum-point.

CHISELS (Fig. 108, Nos. 3, 4, 10 and 12)

Chisels have been widely in use since proto-historic times. Flat chisels with pointed butts were common in the Early Dynastic period in Egypt², while those with a rounded butt were in use at Jamdet Nasr in Mesopotamia³. Chisels of varied shapes were made in the Indus Valley sites, but those with a flat blade and a substantial tang were the peculiarity⁴. These were made from rectangular or cylindrical solid rods of copper, and smaller chisels were used in the carving out and trimming of seals and in inlay work on shells⁵. At Harappa, MACKAY⁶ could distinguish five types of chisels which show a wide variety in the making of these.

Fig. 108. No. 3 The lower or the cutting edge of a chisel of rectangular section, the edge seems to have been used as the irregular worn out outline of the originally sharp end shows, the edge seems to have been hammered both ways to a sharp outline⁷, (No. 200). Extant length 19 mms., thickness of the body 9 mms., breadth of the cutting edge 6 mms.

The Navdatoli specimens, however, differ from the Indus Valley chisels as will be seen from the following description.

Fig. 108. No. 4 The upper portion of a chisel with a convex top showing that it was not much hammered over in use, section rectangular. Length 19 mms. thickness 3.5 mms. and breadth 6.5 mms. No. 200 a.

No. 10 An intact piece but without finish, seems to have been irregularly hammered to a squarish shape out of a long, thin rod of copper as only the three faces are beaten smooth; slightly curved in outline; one end bevelled and flattened sharp, the other hammered to a point, might be a chisel-cum-point. Length 40 mms. thickness 2 mms. and breadth of cutting edge 3 mms. No. 200 b.

No. 12 Complete, unruined specimen, one end tapering to a truncated head, the other hammered flat to sharpness, middle portion square in section, piece prepared out of a squarish rod of copper, cutting edge intact, hence not used. Length 34 mms. thickness 3 mms. and breadth of cutting edge 6 mms.⁸ No. 200 c.

2. CHILDE, G., *New Light on the Most Ancient East*, p. 158.

3. *Ibid.*, pp. 135, 145.

4. MACKAY, *Early Indus Civilisations*, p. 99

5. *Ibid.*, pp. 125, 130-31.

6. *op. cit.*, p. 184

7. Exactly similar but an intact chisel was found in the chalcolithic layers at

Nevasa.

8. For comparison, see VATS, M. S., *Excavations at Harappa*, pl. CXXI, 10, 11.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Hooks (Fig. 108, Nos. 5 and 11)

Two hooks were found of which one specimen was in a normal condition. These appear to have been prepared out of tapering rods of copper.

In the absence of fish-drawings on pottery as also the lack of a reasonable quantity of hooks, no generalisation is possible. As compared to the fish-hooks of the Indus Valley, some of which are barbed, the Navdatoli specimens present a variety devoid of barbed ends⁹. It will be possible to throw more light on the use of these, if extensive excavations yield abundant specimens. The small material at hand, however, points out the antiquity of fishing in the Narmada region.

Fig. 108. No. 11 A perfect and complete specimen with one end curved, sharp and pointed; the other hammered to a flaring, thin and torn edge possibly due to hard hitting, section round; thickness 7 mms. and breadth of the flat end 3 mms. No. 200 d.

No. 5 A hook similar to above but with an unfinished curve; one end pointed, slightly curved but not upraised, the other hammered flat; square section in the middle. No. 200 e.

OBJECTS FROM MAHESHWAR (Figs. 108 and 109)

The collection consisted of varied objects such as copper wires, bowls, rods, hooks, rings, a dish, antimony rods, a needle and copper sheet cut-pieces. Forty-four objects of copper were found; ten each from the layers of Periods IV and V, seventeen from those of Period VI, three from the topmost Muslim-Maratha deposits and four were surface collections.

Some of the objects lead to certain observations which may be noted here. For instance, No. 234, which is a hairpin, goes well in dating with those found at Taxila in the Śaka-Parthian period. The Maheshwar specimen, moreover, since it comes from the topmost layer of Period VI, shows that such pins were used even up to 500 A.D.

Regarding the dagger-pendent, it may be further noted that it very probably had an amuletic significance connected with the cult of mother-goddess. The shape shows a close affinity to the 'fiddle-shaped' cult figures so characteristic of Crete. Similar terracotta figurines have been reported from Central India and Gujarat where they belong to post-chalcolithic

9. For a short survey of the art of angling in India, See HORA, S. L., Angling in Ancient India, *Anc. Ind.*, Nos. 10 and 11 (1954-55), pp. 152-56.

METAL OBJECTS

levels. Their stratigraphical position may indicate that the cult survived for a long time, though its origin can be ascribed to proto-historic period. Our figure compares favourably with the one found at Tepe Hissar in Iran as both have triangular tops, perforations and a similar conception of shape¹⁰.

The trefoil ornament (No. 948) found in Layer 12, i.e. the lower layer of Period V may be ascribed to a century or two B.C., and thus furnishes a new lower limit for its existence. The Taxila specimens came from Sirkap and were ascribed to the Parthian period by MARSHALL.¹¹

Fig. 108. No. 2 A long copper piece tapering and pointed at both the ends, possibly used as a tooth-pick or nail-cleaner; round in section. Length 116 mms., thickness 4.5 mms.¹² No. 142, MHSR. II. ii. Surface.

No. 6 A complete kohl-stick thinner in the middle and bulbous at the ends¹³. Length 121 mms., thickness 3 mms. No. 905, MHSR. II. ii. B(13). Period IV.

No. 7 An intact copper needle with one end pointed, the other thick and perforated¹⁴. Length 100 mms. No. 981, MHSR. II. ii. A(13). Period IV.

No. 13 A fragment of a copper piece, probably a hook, with round section, one end curved and broken, and the other also broken. Thickness 3 mms. No. 641, MHSR. II. ii. D(5). Period VI.

No. 14 A very thin, tiny object with a curved and long body rectangular in section, the other end or stem made flat but round in outline with a perforation at the centre, possibly an hair-pin¹⁵. Thickness 2 mms. No. 234 MHSR. II. ii. Pit 3, sealed by layer (2). Period VI.

No. 17 A hook, heavily rusted, with one end tapering, curved and upraised; Length 53 mms. and thickness 6 mms. No. 835, MHSR. II. ii. B (8). Period V.

Fig. 109. No. 1 A small copper dish with a flat base and flaring sides, heavily crusted¹⁶. Diameter 53 mms. and thickness 2 mms. No. 406, MHSR. II. ii. H (3) Period VI.

10. Cf. SCHMIDT, Erich, F. *Excavations at Hissar Damghan*, (Philadelphia, 1937), pl. XLVII, H 3500.

11. Exactly similar from Taxila, where it is identified by MARSHALL as a "triple-ringed ornament" and ascribed to Parthian period. MARSHALL, *op. cit.*, Vol. I, p. 166; Vol. II, pp. 581-82; Vol. III, pl. 172, Nos. 35, 36.

12. Cf. in bone, from Taxila, MARSHALL, *op. cit.*, p. 657.

13. Cf. SANKALIA and DEO, *Report on the Excavations at Nasik and Jorwe*, Fig. 51, c & d.

14. It may incidentally be noted that long unperforated copper poker was found in the chalcolithic layers at Nevasa.

15. For similar pins from Taxila ascribed to the Saka-Parthian period, See MARSHALL *Taxila*, Vol. II, p. 586; III, pl. 173, No. 229; pl. 182 No. p. 1.

16. Such are used even now to keep sandalwood paste. Also used by goldsmiths to heat something.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- Fig.109. No. 2 A bowl with the upper half broken, discoid base, corroded and distorted and hence oval on plan. Diameter 68 mms., height 31 mms. and thickness 2.5 mms. No. 505, MHSR. II. ii. D (3). Period VI.
- No. 3 An intact piece, dagger-shaped but with flat, thin and leaf-shaped blade having two neat circular perforations just below the projecting top, a thin stem crowned by a triangular hilt, a trapezium-shaped outline punched just above the perforations; used possibly as a pendant. Height 46 mms., breadth 26 mms., and thickness 2.5 mms. No. 249, MHSR. II. ii. C (2). Period VI.
- No. 4 A heavily rusted trefoil ornament of copper with three rings attached to each other with spikes projecting at the junction of two rings. Diameter 28, 28 and 21 mms, thickness 6 mms. No. 948, MHSR. II. ii. A (12). Period V.
- No. 5 Half of a copper bangle-piece with raised edges making its section pin or clamp-like¹⁷. Diameter 56 mms. thickness 1 mm. and breadth 7 mms. No. 355, MHSR. II. ii. D (1). Period VII.
- No. 6 Two fragments of a copper ring with a flat head, the lower portion plano-convex in section. Diameter 24 mms. and thickness 3 mms. Similar rings are even now used. No. 661, MHSR. II. ii. A (5). Period VI.
- No. 7 Half of a copper ring, plano-convex in section, with the head made flatter, one end conical and the other convex in outline. Diameter 19 mms. and thickness 2 mms. No. 554, MHSR. II. ii. A (5). Period VI.
- No. 8 A complete specimen of a tiny copper jingling-bell made by rounding a copper sheet and in which—as even now used for bullocks or pigeons—small stones were kept so that they made, when tied in a group, a jingling sound. Diameter 27 mms. No. 958, MHSR. II. ii. A (10). Period V.
- No. 9 A complete ring, heavily encrusted with a biconvex head, rest plano-convex in section. Diameter 21 mms. and thickness 4 mms. No. 952, MHSR. II. ii. A (11). Period V.
- No. 10 The upper half of a copper ring with a broad, flat top having a biconvex lengthwise depression on it possibly to set a semi-precious stone in it. Breadth 8 mms. and thickness 5 mms. No. 608, MHSR. II. ii. A (5). Period VI.
- No. 11 A short tubular bead of a diameter of 5 mms. No. 511, MHSR. V. i. A (6). Period VI.
- No. 12 An intact copper ring, not much rusted and somewhat oval in section. Diameter 18 mms. thickness 2.5 mms. and breadth 3 mms. No. 396, MHSR. II. ii. B (3). Period VI.

LEAD OBJECTS

Five objects, all coming from Maheshwar and four of which belong to Period V, were found. The fifth piece came from the lowermost layer of Period VI.

Four of these are coils of lead wound closely and the fifth is a nail with a tapering body, truncated end and convex top. It is 30 mms. in length. No. 864, MHSR. II. ii. B (8). Period V. Not illustrated.

17. This is a patent section in shell bangles.

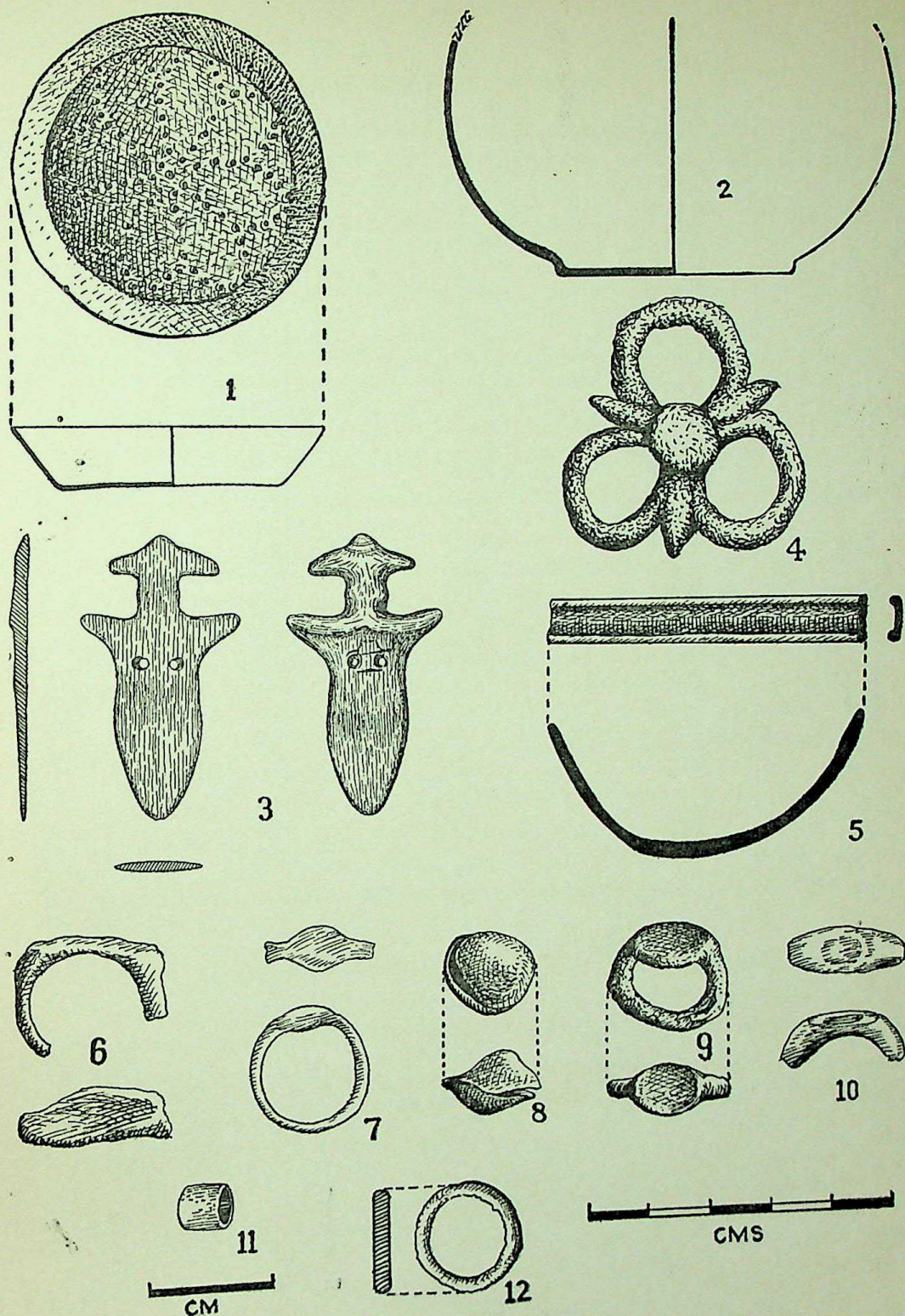


Fig. 109 Copper Objects. (See pp. 209-10)

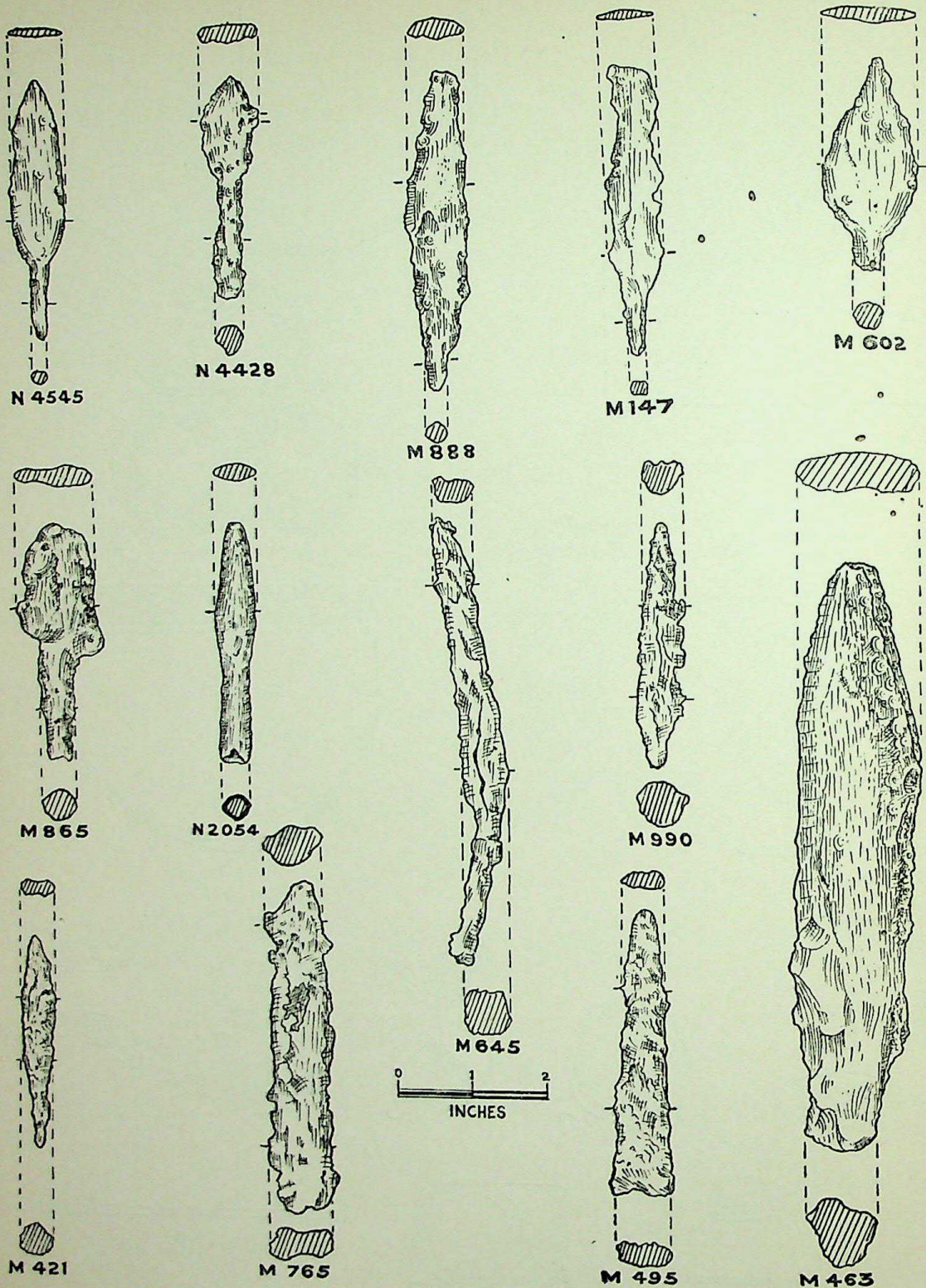


Fig. 110 Iron Objects. (See p. 212)

METAL OBJECTS

Though the evidence at hand is not abundant, yet it is sufficient enough to indicate the use of lead in everyday life as early as the 1st-2nd centuries B.C. at Maheshwar¹⁸.

IRON OBJECTS

At Maheshwar, we have no evidence of iron in Period III in the chalcolithic levels, because the only metals discovered are copper or bronze. But iron occurs extensively in Period IV, beginning with the N.B.P. and the black-and-red ware. A large number of specimens—broken fragments and heavily oxidized lumps of iron were found (see chart B₁).

In this section, only complete specimens or those whose forms can be reasonably conjectured, have been described.

In spite of the large number of excavations carried out in Northern India, our knowledge about the origin and introduction of iron into India is still a matter of conjecture. At Hastinapur, "a couple of slag lumps (of iron) were found in the top layers" of Period II (i. e. the Painted Grey ware phase) and Period III (6th—3rd century B.C.¹⁹). A similar evidence is reported from Rupa.²⁰ But the largest quantity of iron objects has come from Taxila. Here again, iron comes from the earliest levels dated to about 6th century B.C.²¹ But it is very interesting to recall that the iron objects at all these sites tally more or less with those of Maheshwar, except a few distinct types at Taxila, viz. the shaft-hole axe (No. 112). In spite of its typological affinities with those of Sialk in Iran, its value as an indication of the limit of iron in Northern India is very great. In this connection, the view of Col. GORDON that the use of iron was not known in Northern India before 250 B.C.,²² will have to be discarded.

With regard to South India, the typology of the iron objects does not materially differ, except for a few distinct types with exclusive distribution. It has been suggested by GORDON that an adze with a ring-fastener

18. According to Kautilya (II. 12) the mining superintendent (ākārādhyakṣa) was in charge of various mines like those of silver, gold, copper, lead (Sisa) etc. Incidentally it may be noted that lead was known in Egypt since pre-dynastic times. (LUCAS, A., *Ancient Egyptian Materials and Industries*, p. 275).

19. LAL B. B. "Excavations at Hastinapur", *Ancient India*, Nos. 10 & 11, 1954-55.

20. In a personal communication from Dr. Y. D. SHARMA. Here again, the evidence is not very clear about the association of iron with the Grey ware.

21. MARSHALL, John. *Taxila*, Cambridge 1951.

22. GORDON, D. H., "Early use of Metals in India and Pakistan" *JRAI*, LXXX. 1952.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

does not occur in the North and that it is associated with Megaliths only. But since that type occurs at Junapani near Nagpur, this point requires further verification. The importance of the iron objects, particularly those of Period IV, is very great from this point of view. The main types are described below.

Arrowheads (Fig. 110)

Site	Registered Number	Period	Description
NVT	4545	IV	Leaf-shaped and tanged
"	4428	IV	Tanged
MHSR	602	VI	Leaf-shaped and tanged
"	865	V	Tanged and barbed (?)
NVT	2054	—	Tanged and socketed
MHSR	421	VI	Tanged

Arrowheads of all the types described here have been reported from Taxila and Hastinapur. The latter has yielded a socketed arrowhead, but it is barbed (Fig. 31),²³ unlike the Maheshvar specimen.

Spearheads (Fig. 110)

A number of other pointed objects, which are too big to be arrowheads have been described as spearheads, as they were probably shafted to a wooden spear.

Site	Registered Number	Period	Description
MHSR	888	V	Tanged
"	147	VI	Tanged
"	990	V	Tanged
"	765	VI	—
"	495	VI	—
"	463	VI	Large specimen

Nails (Fig. 111)

A large number of nails were recovered from Periods VI and VII at Maheshvar, as also the top levels at Navdatoli. Most of them have flat square heads, sometimes a hook-like effect is produced by bending the top of the nail and flattening it. Only a few specimens have been illustrated to

23. LAL, B. B. *loc. cit.*

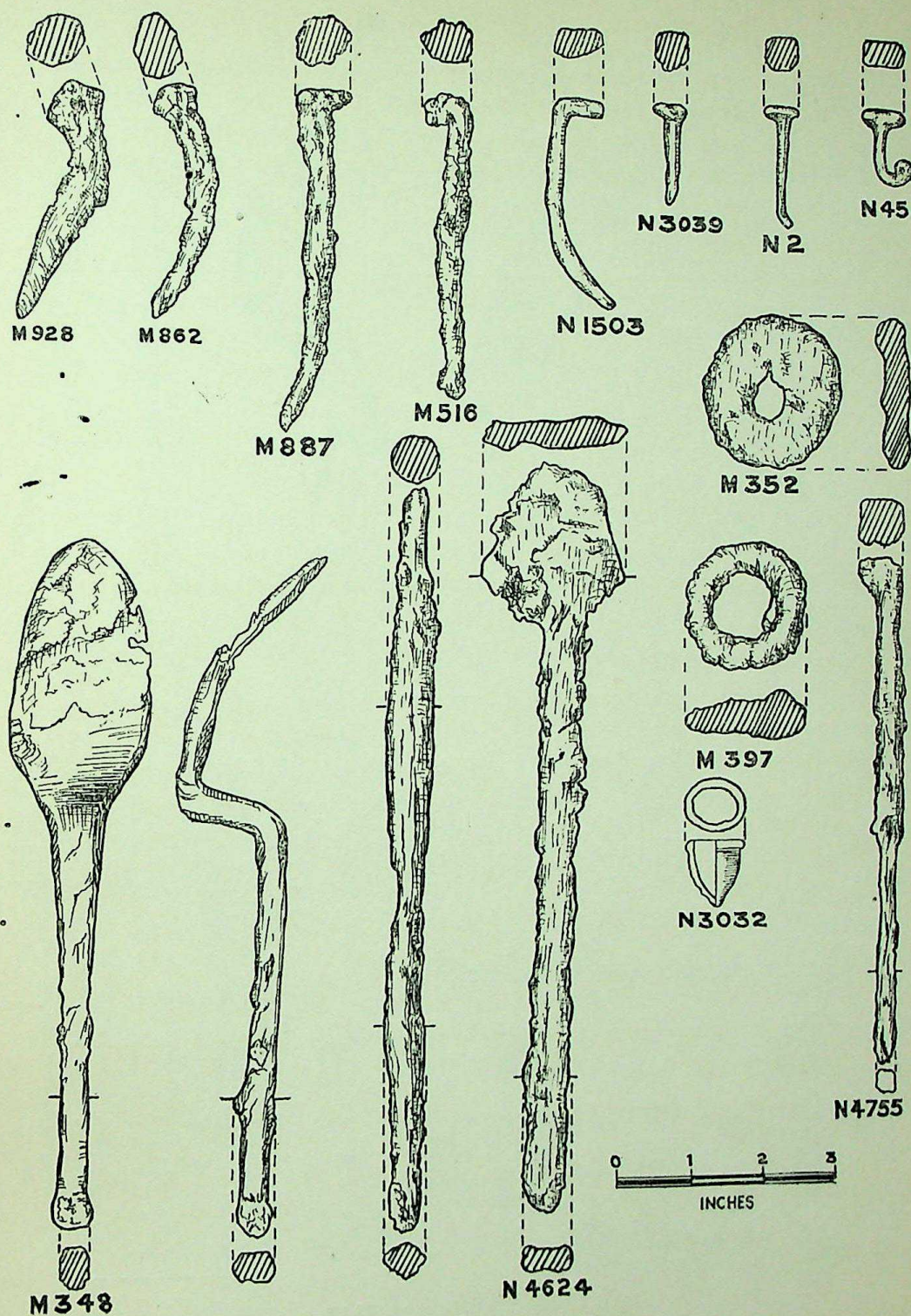


Fig. 111 Iron Objects. (See pp. 212-14)

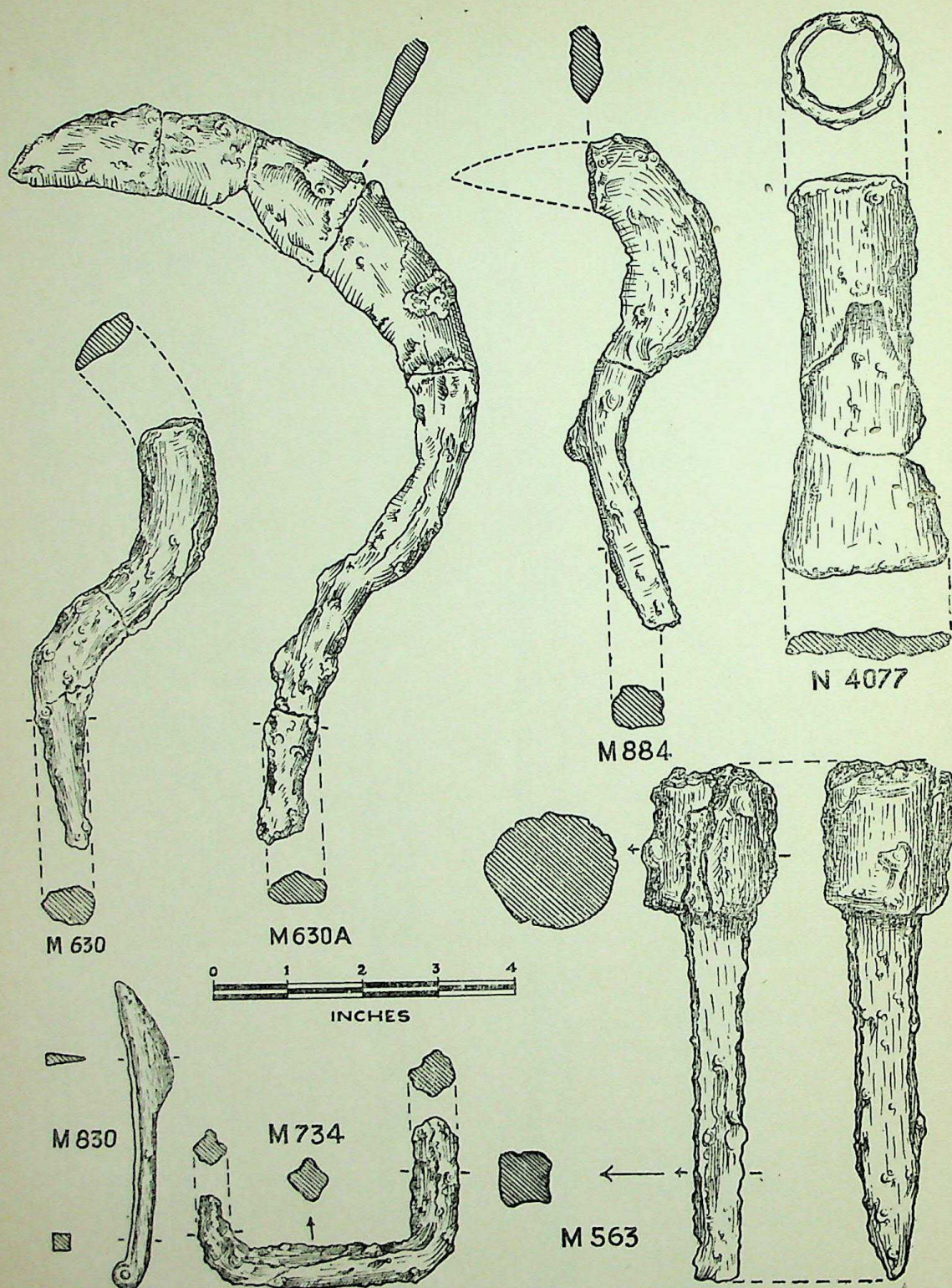


Fig. 112 Iron Objects. (See pp. 213-15)

METAL OBJECTS

give an idea of the types. At Hastinapur nails are reported from Period IV (2nd century B. C. to 3rd century A. D.). Similar evidence was available at Nasik and Kolhapur.

Site	Registered Number	Period
MHSR	928	V
"	862	VI
"	887	VI
"	516	VI
NVT	3039	VII
"	1503	VII
"	2	VII
"	45	VII

It is very interesting to recall the occurrence of large quantities of these iron nails, suggesting the use of heavy timber work, as these types of nails are used even today in heavy house-construction.

Trowel (Fig. 111, No. 348)

This trowel-like object with a long handle comes from Period VI, (MHSR). According to PETRIE, the earliest recorded trowel comes from the Roman levels of Troy²⁴. Pl. XL, VII T.B.

Rods (Fig. 111)

A large number of long cylindrical iron objects was found and hence they have been described as rods. The only specimen illustrated has been found from Trench II (Period VII).

Site	Registered Number	Period	Description
NVT	4755	—	
MHSR	352	VI	Flat ring
"	398	VI	"

24. PETRIE, F., *Tools and Weapons*, (London, 1917.) Pl. XL VII, T.B.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Iron Spike (?) (Fig. 111)

This has been described as a spike, as its most likely function seems to be to give an effective point to a wooden object (?). A similar object of copper from Hastinapur (Fig. 30—13)²⁵ has been described as a stopper.

Site	Registered Number	Period
NVT	3032	VI

Sickles (Fig. 112)

A few complete sickles and a large number of fragments were found on either side of the river. Three specimens which are nearly complete, have been described here. The sickle occurs in the Śaka-Parthian levels of Taxila (Periods II—III), Nos. 203, 204 and 206.²⁶

Site	Registered Number	Period
MHSR	630	VI
„	884	V

Hoe (Fig. 112)

A unique type of hoe was found at Navdatoli from Period IV. As it is heavily oxidized, it is difficult to say whether the top ring is formed by bending the flanges of the top. Such hoes with split or bent in rings have been found at Taxila (No. 195. Pl. 169)²⁷ and Hastinapur (Fig. 31. No. 17).²⁸

Site	Registered Number	Period
NVT	4077	IV

25. LAL., *loc. cit.*

26. Missing

27. Marshall, *loc cit.*28. LAL., *op. cit.*

GLASS OBJECTS

Chisel (Fig. 112)

A carpenter's chisel with ring fastener for hafting was found from Period VI.

Site	Registered Number	Period
MHSR	563	VI

Knife (Fig. 112)

A large number of specimens of what look like knife-blades were recovered, but they have not been described, as it is difficult to reconstruct their complete forms. But the most interesting specimen, completely intact, is a knife with a hollow or concave back. It has a long bent handle with a hole at one end, probably for suspension.

Site	Registered Number	Period
MHSR	830	VI

Finally a curious object of iron indicating a rectangular shape and made of square-bar iron was also recovered from Period VI. But it is difficult to surmise its function (Fig. 112 No. 734.)

XI

GLASS OBJECTS

The glass objects from Maheshvar-Navdatoli consisted of bangle pieces, glass slag, pulley-like discs and a seal with an elephant impression.

BANGLES (Fig. 106, Nos. 1—13)

These were either monochrome or polychrome, the former being more abundant than the latter.

Monochrome

Six hundred and seventy-three pieces of monochrome bangles were found. Of these, 53 came from Navdatoli trenches.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Though glass was known to the Maheshwar people¹ of Periods IV and V, 95% of the glass bangles are restricted to the layers of Period VI.

Colours

The makers of the glass bangles seem to have utilised a limited range of coloured glass, viz. green, yellow, red, purple and black. Of course, these have been reduced to various combinations and shades such as turquoise green, sap green, hooker's green, dark and pale purple, honey-coloured, Indian red, cobalt blue, ultramarine blue, turquoise blue, deep chocolate, and cream and lemon yellow.

It seems that green bangles were widely used. Next came the black ones and then the blue variety. Yellow glass bangles do not seem to have been very popular.

Technique

The technique of making these seems to have been to pull out glass wire from its molten state and fashion it to the requisite shape. This is clear from the translucent specimens whose structure shows pulled out bubbles. Most of the pieces are translucent, save yellow and black. In the case of the latter, very fine red glass streaks are found. This could be done by pulling thin red plastic glass-wire and fusing it along with the black one while fashioning.

Shape

A monotony of shapes is immediately noticeable in these monochrome pieces. More than fifty per cent of these are of plano-convex section, the next in order being those with a triangular section. Other varieties such as those with a round, or an oval, or triangular with rounded apex, or triangular with ridged apex, or those with straight sides and rounded edges do occur, but in a very small amount. All but three are pieces of circular bangles. The three are zigzag but round in shape.

Decoration

These monochrome bangles had a very limited variety of decoration. The latter consists of mainly two, viz. incised dots and slanting or vertical short lines. These were executed when the glass was still in a plastic state. Most of these are irregularly executed but there are a few which are quite regular. The latter might have been done by revolving the bangle around some rouletting mechanism. The dot decoration is resorted to in the case of bangles with a triangular section while those with linear decoration are generally plano-convex in section. The breadth of the surface naturally was the guiding factor.

Size

The breadth of the surface of the bangles varied between 3 mms. and 6 mms., the latter being few in number. The diameters varied between 42 mms. and 60 mms., though a piece was found with 33 mms. as its diameter. Apparently those with less diameter were meant for children. The normal thickness was between 2.5 mms. and 3.5 mms., though a few were found with a thickness of 5 mms.

Quality of Glass

The glass used for these bangles is generally translucent. In some cases, however it is opaque, as in yellow bangles, and in others it is brittle. In quite a number of cases, a white encrustation covers the original surface.

Since the monochrome bangles have nothing distinct about them, none of these is illustrated. Since several sites have yielded similar pieces and as their characteristics are briefly described above, it is thought fit to pass on to the polychrome variety.

1. See p. 220 below.

GLASS OBJECTS

Polychrome

Compared with the abundance of plain monochrome bangles, the polychrome bangles were very much less. They consist of the thirty-four pieces from Maheshvar and two from Navdatoli.

Distribution

At Maheshvar, a majority of the bangle pieces came from the topmost Muslim layer. Of the thirty-two specimens, twenty-six were collected from layer (1), and the rest from layers immediately preceding it. Thus, these six pieces can be accounted for as intrusions in earlier layers, which might be accidental. They need not be taken to be an evidence of the existence of polychrome bangles during the pre-Muslim period. The evidence at Nasik, Kolhapur, Karad, Nevasa and several other sites shows that the polychrome variety was in use only during the late medieval period².

Colours

The colours used are Indian red, jet black, lemon yellow, chrome orange, light yellow, dark olive green, hooker's green, light cream, sap green, turquoise blue and chocolate. This shows that the makers were adept in the making of glass of various colours and shades.

Technique

The technique of making such polychrome glass bangles is varied. For instance, in some bangles, wires of plastic glass were placed one above the other and then fused so that the bangles consisted of different bands of various colours vertically. In a few cases, wires of differently coloured plastic glass were twisted to form a rope pattern. In yet other cases, small lumps of plastic glass were pressed on the surface of a differently coloured bangle, which gave a design of eyes or dots. This indicates that the craftsmen utilised a varied range of skilful combinations and had full control over fusion temperature.

The following are illustrated.

- Fig. 106, No. 1 Fragment, triangular section, Indian red at the base, grey band at the apex, the latter having short incisions, opaque. No. 262, NVT. I. i. F (1).
- No. 2 Fragment, plano-convex section, jet black with biconvex leaf-life decoration in lemon-yellow which being fused later is left out in some relief. Thickness 4.5 mms., Breadth 5 mms. No. 311, MHSR. II. ii. G (1).
- No. 3 Fragment, section squarish with one end convex, light-yellow base covered by lemon-yellow band, the latter with chrome-orange glass. No. 475, MHSR. II. ii. E (1).
- No. 4 Fragment, plano-convex section, grey body, opaque on top, two bands in relief each having a rope design in jet black. No. 250, MHSR. V. i. A(1).
- No. 5 Fragment, triangular section, partly translucent, dark olive-green glass with dots in relief in lemon-yellow at the apex. No. 149, MHSR. II. ii. B (1).
- No. 6 Fragmentary, plano-convex section with a ridge, opaque, dark hooker's green body, on top a band in lemon-yellow having slant lines in jet black. No. 149a, MHSR. II. ii. B (1).

2. See, SANKALIA, H. D., *The Antiquity of Glass Bangles in India*, BDCRI., Vol. VIII, Nos. 3-4, pp. 252-259.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

- No. 7 Small piece, triangular but with the apex rounded, translucent, bright lemon-yellow on top and light-creamy at base. No. 353a, MHSR. II. ii. E (1).
- No. 8 Fragment, roughly triangular in section with grooved sides, body-colour sap green, lemon-yellow bands at the three ends, at the apex dots in deep turquoise blue and opaque chocolate over lemon-yellow base. No. 353b, MHSR. II. ii. E (1).
- No. 9 Section as that of No. 353a above, on top lemon yellow, translucent, very light cream at the base, (an ear-ring or ring?). Diameter 24 mms. No. 186, MHSR. II. ii. G (1).
- No. 10 Fragment, plano-convex section, opaque, dark-blue at the base, over it Indian red, on the latter biconvex white decoration with pale blue dots. No. 300, MHSR. II. ii. A (1).
- No. 11 Fragment, section plano-convex with collars, turquoise blue base, at the two collars lemon-yellow enclosing a slant leaf-green band in relief. Breadth 8 mms., Thickness 4 mms. No. 792, MHSR. II. ii. D (1).
- No. 12 Fragment, triangular section, pale yellow-green base, at the apex a band in relief in lemon-yellow with oblique lines in brown black. No. 428, MHSR. II. ii. Y (1).
- No. 13 Fragment, triangular section, light yellow-green base, at apex lemon-yellow band alternated with jet black. No. 280a, MHSR. II. ii. E (1).

OTHER OBJECTS

Besides bangles, other objects of glass were not many. The most important of these, however, are glass discs and a seal with an elephant impression on it.

GLASS DISCS (Fig. 106, No. 14.)

Of these, two fragmentary and two complete pieces were found.

Similar discs of glass as well as of crystal, agate, jasper and chert have been reported from various sites in India. The earliest similar objects termed, however, as "weights" and made of chert were reported from Hastinapur³ where they could be assigned to the pre-NBP. painted grey ware levels (Period II : c. 1100 to 800 B. C.). At Taxila, Kosam⁴, Ujjain⁵, Bahal⁶, Tripuri⁷ and Nagda⁸ they were current during the Mauryan and late Mauryan

3. *Anc. Ind.*, Nos. 10-11 (1945-55), pl. L, Nos. 5 & 11.

4. Information kindly given by Shri G. R. SHARMA of Allahabad University.

5. Specimens exhibited at the Annual Exhibition (1955-56) at New Delhi.

6. Information through Shri M. N. DESHPANDE, Deptt. of Archaeology.

7. DIKSHIT, M. G., *Tripuri—1952*, (1955), pp. 110-11.

8. *Indian Archaeology—A Review* (1955-56), p.13, Fig. 4.

GLASS OBJECTS

period, while at Nasik⁹, Kolhapur¹⁰, Kondapur and Nevasa they occurred in the Andhra or Satavahana levels. At Taxila such discs were found to have been in use in the Saka-Parthian layers and could be had even in the late phases of that period. It seems, therefore, reasonable to say that the pulley-shaped discs of glass and stone were widely in use mostly in the Mauryan-Andhra period. The evidence from Navdatoli-Maheshver also confirms the observation inasmuch as, of the four specimens, two belong to Period IV (c. B. C. 400-100), while one is a surface collection and the fourth was found in a pit sealed by (1). It is likely that all the four specimens belong to one and the same period.

There has been no unanimity regarding the possible use of these discs. It is suggested that they were used either as ornaments in the earlobes, or as weights. Though our specimens show a uniformity of thickness and diameter, at other sites, discs of considerable diameters have been found and it is doubtful whether they could be worn as ornaments with ease and comfort.¹¹

Fig. 106, No. 14 A complete specimen made of glass, 36 mms. in diameter, 15 mms. in thickness and having a groove around the circumference, core shows jet black glass with conchoidal fracture, entire surfaces are blotchy and lustrous grey-black. No. 3244, NVT. II. iii. D (4). Period VI.

Of the unillustrated specimens, No. 4542 (NVT, Surface) consists of fragments of a grooved disc of red glass. The red colour is due to its being in a cuprous state. Similar but complete specimens of such glass have been reported from Nasik¹² where also the red colour could be ascribed to copper oxide. No. 1048 is a complete piece with a diameter of 36 mms. and a thickness of 14.5 mms. The surface is copper-green but the core shows specks of orange-yellow glass. (MHSR. II. ii. A(17). Period IV). The third piece is of transparent glass but is in a fragmentary condition. Its thickness is 15 mms. No. 3206, NVT. II. iii. Pit 4 sealed by (1).

For a similar disc made of bone see under "Bone Objects", p. 225.

9. SANKALIA and DEO, *Report on the Excavations at Nasik and Jorwe*, 1950-51 (Poona, 1955), p. 100 ; pl. xxii, 10, 11, 14, 15, 16.

10. SANKALIA and DIKSHIT, *Excavations at Brahmapuri* (1945-46), (Poona) pl. xxiv-b.

11. Some of the specimens from Somnath, however, are covered with gold leaf. This supports the view that such discs were used as ornaments. In this connection, it may be noted that some tribes in South India and Africa do use such discs. The former put them in the earlobes, while the latter fit them in the perforated lower lip. (Information kindly supplied by Dr. B. SUBBA RAO, Shri N. R. BANERJEE, and Shri K. R. SHRINIWASAN).

12. SANKALIA and DEO, *loc. cit.*

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

GLASS SEAL

A squarish piece of black glass with an elephant impression was found in the layer of Period IV at Maheshvar which is characterised by the find of Punch-marked coins.

So far, only Taxila and Patna have yielded glass objects of Mauryan or pre-Mauryan date. The object from Patna is a glass seal which is not so far published anywhere, while a glass ear-reel comes from Bhir mound and can be ascribed to 5th century B. C. In these two cases as also in the case of the Maheshvar specimen, the glass is noticeably free from impurities.

The glass seal, therefore, is helpful in once again asserting the antiquity of moulding, annealing and working of glass in India since it comes from a datable stratified deposit.

The tablet has two of its edges raised up which indicates that the impressions were stamped when the glass was in a plastic state. SANKALIA¹³ rules out the possibility of the impressions being made with a punch-marked or cast copper coin on the ground that no punch-marked coin has only three symbols and that "none of the cast coins so far published exhibits the symbols exactly in this way".

Elephant device occurs on a number of cast uninscribed, tribal and Andhra coins. In none of these, however, the elephant is depicted in so forceful a manner as on the tablet. It is, therefore, reasonable to deduce that "the impressions on the glass tablet are probably from a seal (or an amulet) or an uninscribed cast square copper coin, which is hitherto unknown."

According to Dr. LAL, Archaeological Chemist, Government of India, the tablet is composed of dark, amber-coloured soda glass. The whitish deposit in the cracks is of silica. The colour of the glass is due to iron compounds. Its hardness lies between 5 and 6, and its specific gravity is 2.41. The tablet is free from devitrification. "It is, therefore, evident that after moulding, the tablet was subjected to annealing with a view to removing the internal strain."

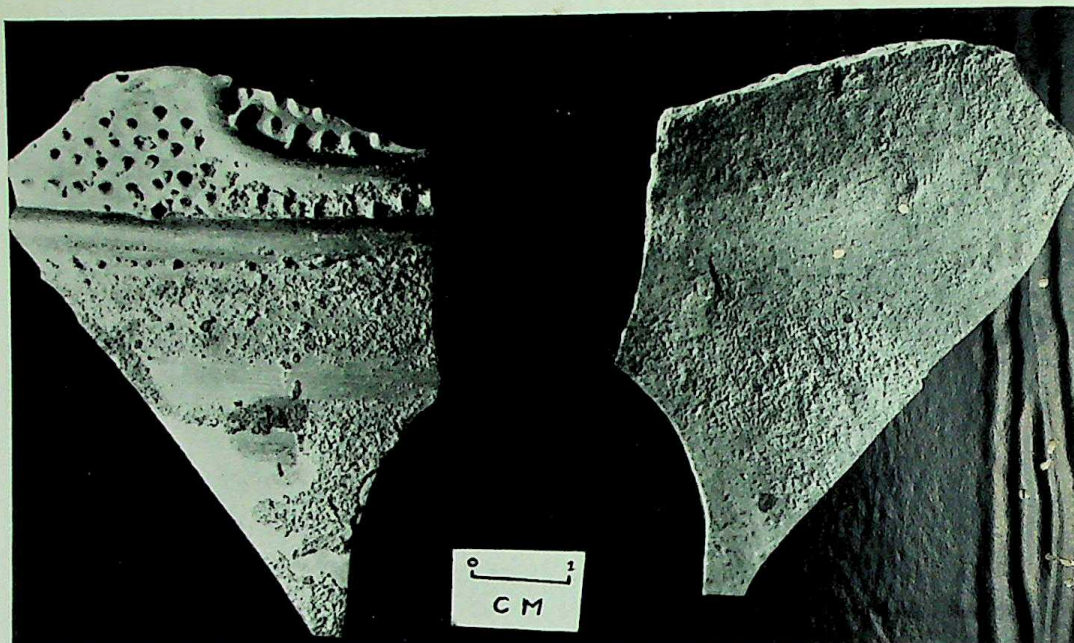
Pl. XVIII, No. 1 The *obverse* shows an elephant walking right with upraised trunk, below its mouth is a vertical bar with a bulbous end and two projections to the right resting on a short horizontal bar; above the head of the elephant is a *svastika* with rounded arms and a symbol formed by taurines.

Reverse is flat and without any impressions. Length 24 mms. and thickness 10 mms. MHSR. II. ii. B (13). Depth 32 ft. 8 in.

GLASS PIECES AND SLAG

Besides the objects described above, three glass slag pieces, an unperforated cylindrical rod and a specimen of devitrified glass were found. Of these, the last came from Navdatoli. All these belong to Periods V and VI.

13. JNSI., Vol. XV, pt. ii, pp. 5-8.



a. Moulded Red Polished ware with thumb impression on the sherd. (See p. 162)



b. Glass seal from Tr. II, Period IV, Maheshvar. (See p. 220)

OBJECTS OF BONE, IVORY, STEATITE AND SHELL

Of the Maheshvar specimens, two pieces of glass slag belong to Period V. These are jet black opaque glass pieces. One of these is full of bubbles and the other has green specks in it. The third specimen belongs to Period VI, and is green in colour.

A lump of devitrified glass comes from Pit 4 of Period VI. It is completely devitrified and breaks down at the slightest impact. It is opaque and whitish in colour.

A more interesting piece is a short, thin, solid cylindrical piece of yellow-green glass. The body shows horizontally parallel marks indicating that the piece was "pulled out" when in a plastic state. The two ends show shallow and thin incisions showing that perforation was possibly attempted before the piece was completely cooled down. It is likely that beads were prepared out of it. No. 164 f, MHSR. II. ii. A (12). Depth 28 ft. 4 in., Period V

XII

OBJECTS OF BONE, IVORY, STEATITE AND SHELL

BONE OBJECTS

A variety of bone objects was found. These comprised bone points, kohl-sticks, bangle fragments, discs or spindle whorls, handles, pulley-shaped objects and a dagger pendent.

BONE POINTS

Twenty-four specimens of these were found. Of these, four come from Navdatoli. They occur in the levels of all Periods.

The technique of making these involved the flaking off of a piece of bone to a bi-pointed or a tanged outline. This is evident from almost all the pieces showing flake-scars. Though few in number, some of the specimens do show attempts of smoothening and polishing the body-surface of these objects. It is also likely that the smoothness might have resulted due to constant handling of the piece.

The specimens under study do not furnish evidence of the different stages of manufacture. However, some are unfinished attempts and indicate that the industry might have been of local origin.

Similar bone points have been reported from various sites in India. Their earliest occurrence comes from Mohenjodaro¹ and Chanhudaro². At Hastinapur³, they are associated with the Painted Grey ware which occurs in Period II (c. 1100-800 B. C.). They are also reported from Bhir

1. MARSHALL, J., *MIC.*, Vol. II (1931), pl. CXXXII, Nos. 7, 8.
2. MACKAY, E., *Chanhudaro Excavations*, (1943), p. 319, pl. XCII, No. 29.
3. *Anc. Ind.*, Nos. 10 and 11 (1954 and 55).

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

KOHLE STICKS (Fig. 114, No. 6)

A very small number of bone kohl-sticks was found. Of the total, four came from Navdatoli and one from Maheshwar. The former belong to Periods IV and VII, while the latter comes from Period VI.

It is well known that kohl-sticks or antimony rods have been in use since a remote past and that in India they are reported from a number of sites. It is needless to repeat here their distribution¹. The Maheshwar-Navdatoli evidence points to their antiquity round about the 4th century B. C.

The specimens under study do not exhibit a wide range of artistic execution. Most of the pieces are plain rods tapering to a point. Some of the specimens, however, have their broader ends carved to a shape of a molar.

Fig. 114, No. 6 A long piece with the tapering end broken, the other end having six points looking on plan like a small blooming flower, a series of grooves below. Length 90 mms. No. 538, NVT. I. i. A (I). Period VII.

The unillustrated specimen has its one end polished and pointed, while the other is unfinished and irregularly flaked off. It may indicate that antimony rods were made locally here. But the evidence is meagre for a generalisation. On the other hand, it is also likely that a broken antimony rod was flaked off afterwards with a view to putting it to some other use. No. 4512, NVT. II. iii. D (7). Period IV.

BONE BANGLES

Besides glass and shell bangles, bone bangles also seem to have been in use. Both the pieces were found in layers of Period IV.

Of these, No. 4513 has a concavo-convex section, while No. 4429 has a plano-convex one. Both specimens being in a fragmentary state, their diameters could not be ascertained. The former has a breadth of 17 mms. and the latter 8 mms., with corresponding thicknesses of 1.5 mms. and 8 mms.

BONE DISCS

Two disc-like objects of bone were found. One of these might have been a spindle whorl.

One is a very thin piece with a diameter of 19 mms. and a central perforation. It is likely that it was used as a spindle whorl. No. 2529, NVT. I. i. B (4). Period III.

The other is a fragmentary piece with bevelled edges and has a thickness of 5 mms. It seems to have been fashioned out of a bigger bone piece by constant flaking off and then by smoothening the surfaces as is evident from the flake scars. No. 2735, NVT. Pit (2) sealed by (3). Period III.

1. SANKALIA and DEO, *op. cit.*, p. 119.

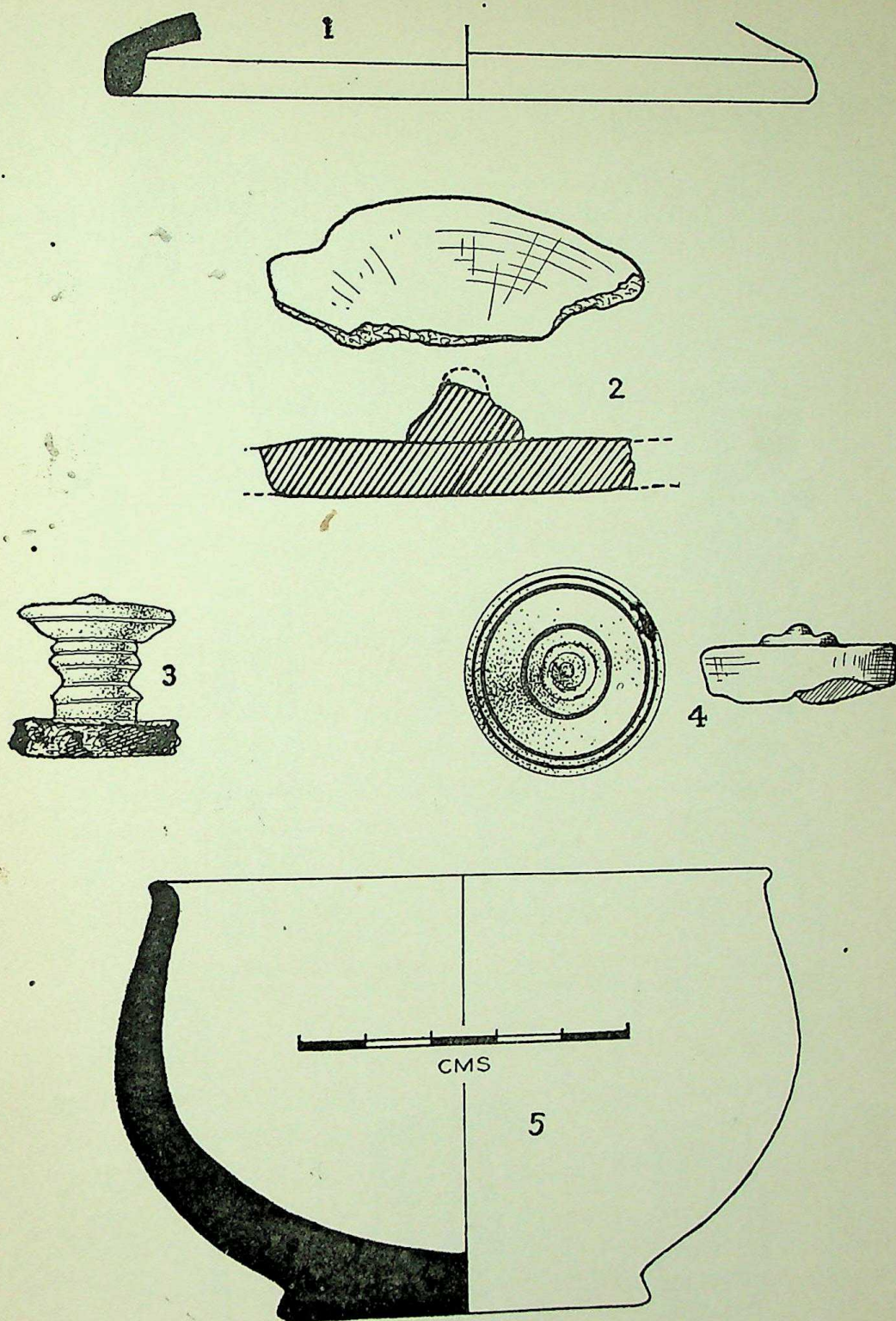


Fig. 113 Objects of Bone, Ivory, Steatite and Shell. (See pp. 226-27)

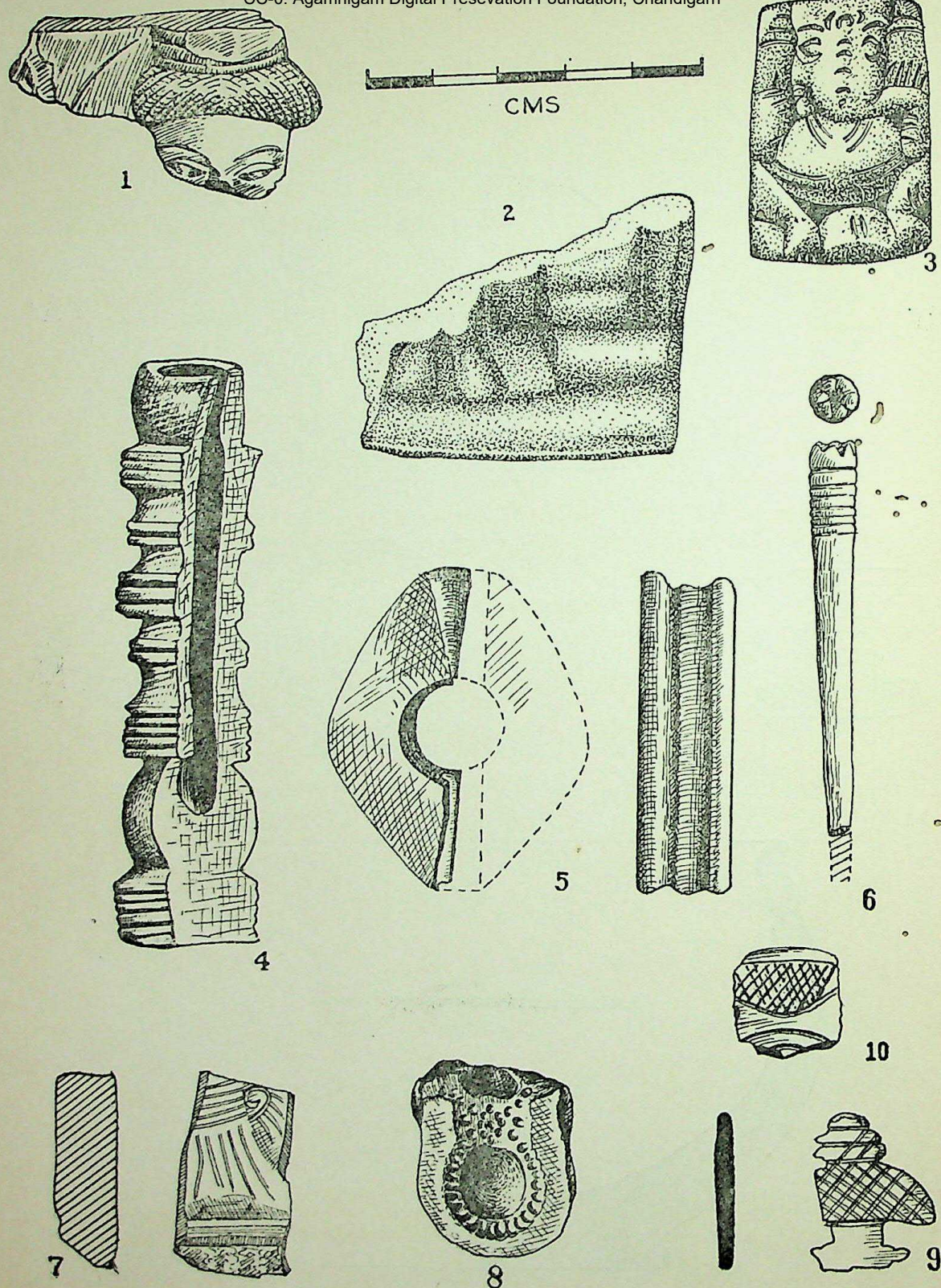


Fig. 114 Objects of Bone, Ivory, Steatite and Shell (No. 8, Terracotta), (See pp. 224-25; 242-43)

OBJECTS OF BONE, IVORY, STEATITE AND SHELL

PULLEY-LIKE OBJECT

A reference has already been made (see p. 218) to similar objects of glass. One specimen made of bone was a surface find at Maheshvar. Because of less weight and diameter it is likely that this piece is more suitable to wear as an ear-ornament, if at all.

The piece has a diameter of 35 mms. and a thickness of 19 mms. The workmanship exactly resembles that of glass pieces with the difference that the bone specimen has a greater thickness.

DAGGER PENDENT (Fig. 114, No. 9)

A single specimen of what appears to be a dagger pendent, belongs to Period VI. Dagger pendants are known from several sites in India from the Mauryan period².

- Fig. 114, No. 9 The hilt-portion of a dagger, blade not extant, hilt bears decoration of incised hatched irregular squares, under surface concave, length 27 mms. and thickness 4 mms. No. 613, MHSR. II. ii. C (5).

HANDLES (Fig. 114, No. 4)

Four specimens of what might have been bone handles were found. Of these, two each can be assigned to Periods IV and V.

The handles of the earlier period are more elaborate and decorated than those of the succeeding period. The latter are invariably plain.

- Fig. 114, No. 4 Handle-piece with a decoration of grooves on bands in relief, section shows that the piece served as handle to some object with a round and tapering tang as is evident from the shallow channel of the same shape inside the handle, grooves on the outer surface help to have a good grip. Length 99 mms., diameters 28 mms. and 18 mms. No. 992, MHSR. II. ii. B (10). Period IV.

The rest of the specimens are fragmentary. But No. 683 is similar to the illustrated specimen. No. 769 is square in section, 81 mms. in length and has a perforation to receive a tang.

IVORY OBJECTS

These comprise two pieces of bangles. Both are fragmentary, and come from Period IV.

No. 4514 has an oval section and a thickness of 4.5 mms. NVT. II iii. D (7). The other is also similar.

2. BECK, *MAHI*, No. 65, pl. III (3rd century B.C., agate); IV. 7 (3rd century B.C., carnelian); DIKSHIT, M. G., *Beads from Kondapur* (Hyderabad, 1952)—lapis, chalcedony, faience: all Andhra period; Nevasa, faience, early historical period.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

STEATITE OBJECTS

Steatite is the material for lids, small utensils and pounders. Of these, the lids are more numerous than the rest.

LIDS (Fig. 113, Nos. 1 and 4)

Of these, four specimens were found. Three of them belong to Period VI and the fourth comes from the topmost layer. It is likely that it originally belonged to an earlier period.

It is possible to indicate the existence of steatite caskets or containers from such lids. Of the caskets, however, no evidence could be had. Steatite caskets have been found so far at a number of sites in India. They come from pre-Mauryan and Mauryan levels in Central India, while at Taxila the earliest specimen belonged to the early Saka levels at the Dharmarajika Stupa³. At Rairh they were numerous and were supposed to have been used as cosmetic caskets⁴. At Tripuri, several of these belonged to stratum IV (c. 100 B. C. -200 A. D.). At Nasik⁵, they were in use in the Satavahana period.

These can be grouped as follows.

- (a) lids having a flat but decorated top, and tapering sides⁶ to fit in the mouth of the casket or container.
- (b) similar to above but with a convex top, and
- (c) convex top and projecting-down tip enclosing the mouth of the container.

The small size of these caskets at Maheshwar tends to suggest that they were used as lids of most probably cosmetic caskets. However, the discovery of a Stupa at Navdatoli (as also at the nearby Kasravadi) holds out tempting possibilities of the religious nature of these.

The perfectness with which these lids have been made shows that they were turned on the lathe. The incised decorations of circles etc., are also measured decorations and indicate the use of precise tools for incisions.

Fig. 113, No. 4 An almost complete specimen with the flat upper surface having the decoration of incised concentric circles and a ringed knob in relief in centre, greyish in colour, diameter 34 mms. No. 615, MHSR. II. ii. C (4). Period VI. (Type 'a').

No. 1 Fragmentary specimen of yellowish-greyish material with a convex top and projecting-down rounded edges. No. 4070, NVT. III. iv. C (1). Period VII. (Type 'c')

3. MARSHALL, *Taxila*, Vol. II, p. 498.

4. PURI, K. N., *Excavations at Rairh*, pp. 23-24.

5. SANKALIA and DEO, *op. cit.*, p. 120-21.

6. DIKSHIT, M. G., *Tripuri*, p. 114, Type 28.

OBJECTS OF BONE, IVORY, STEATITE AND SHELL

TOILET CASKETS

Besides lids, two fragmentary pieces of rims of steatite receptacles were found. One of these belongs to the topmost layer and the other was a surface collection at Maheshvar⁷. Such small receptacles were possibly used for unguents or for toilet purposes.

OTHER OBJECTS

WHET-STONE

Fig. 113. No. 2 A fragmentary piece, round in shape, with one leg intact. It is likely that this was used for sandalwood paste, for even now similar things are used. No. 193, MHSR. II. ii. D (1). Period VII.

BOWL

No. 5 The half of a mixing-bowl with a flat discoid base, bulbous sides, slightly outcurved edge and smooth surfaces, possibly used as a mixing pot; diameter 116 mms., height 110 mms., maximum thickness 9 mms. No. 436, MHSR. II. Surface.

STAND LEG (?)

No. 3 Fragment with the extant base rectangular in shape, has a stem with grooves and a funnel-shaped projection with a flat top having a pair of incised circles and a central knob; height 25 mms., diameter of the upper face 21 mms. No. 771, MHSR. II. ii. C (6). Period VI.

OBJECTS OF SHELL

These comprised bangles, lids, amulets and several fragmentary objects.

BANGLES (Fig. 107, Nos. 1-12)

As compared with the quantity of glass bangles, the number of shell bangles was very much less. Of the 198 pieces found, 164 came from different layers at Maheshvar, while the rest were found at Navdatoli. They occur in all periods.

Several pieces of cut shells and other prepared objects found in lowermost proto-historic layers at Navdatoli and in layers of Period VI at Maheshvar show that this was a local industry of considerable antiquity.

7. The nearest deposits of steatite to NVT-MHSR are at Jaipur (Rajasthan) and Jabalpur. WADIA, D. N., *Geology of India*, (London 1944), p. 371.

EXCAVATIONS AT MAHESHWAR AND NAVDATODI

Most of the pieces (140) were plain and only 58 pieces were such as had some kind of decoration on them.

Plain Bangles

These can be grouped into the following types according to their sections.

- Type A — short rectangular section.
 B — long rectangular section.
 C — square section.
 D — plano-convex section.
 E — triangular section with two corners at the base truncated.
 F — double-concave section.
 G — drop-shaped section.
 H — truncated barrel section.
 I — biconvex section.
 J — irregular section.

The periodwise distribution is as follows.

Type	Periods					Surface
	III	IV	V	VI	VII	
A	2 N	9 N	2 M	36 M	1 M+1 N	1 N
B				15 M	1 M	
C		6 N		24 M	1 M	2 N
D			8 M	4 M	1 M	
E				6 M		
F			2 M			
G			3 M		1 N	
H			2 M			
I			2 M		1 N	
J	2 N			5 M	2 N	

OBJECTS OF BONE, IVORY, STEATITE AND SHELL

The typewise measurements are as under.

Type	Thickness (in mms.)		Breadth (in mms.)	
	Max.	Min.	Max.	Min.
A	7	2	4	—
B	7	2	11	9
C	6	6	6	6
D	4	2	12	6
E	4.5	3	17	9
F	3	—	12	—
G	4	—	8	—
H	4	—	8	—
I	4	—	—	—
J	12	—	4	—

The minimum diameter that could be had was roughly 37 mms. while the maximum was a little over 70 mms. It is evident from this that smaller bangles were meant for the use of children.

Decorated Bangles

The decorations do not show a wide range of ornamentation. The favourite and probably also the easiest way of decoration seems to have been effected by incisions made by a sharp point. Along with this, parts of the surface were flaked off so as to retain a knob in relief. This has been a favourite motif as corroborated by evidence from Nasik, Nevasa and several other sites. It is to be noted that no decorated specimen has been found in the Proto-Historic deposits at Navdatoli⁸.

Another patent method was to have a central broad groove on the outer surface which was utilised to fix gold leaf as a decoration⁹. This observation is further confirmed by the find of similar bangles with pieces

8. At Taxila also, "ornate examples are of relatively late date (third to fifth centuries A. D.)" MARSHALL, *op. cit.*, Vol. II, p. 668.

9. Fragments of shell bangles with gold leaf sticking to them were found in layer 6 of Tr. II of MHSR.

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of gold leaf still sticking to it in the recent excavations at Nevasa. Even now, Marwari women use such bangles which shows that this mode of decorating shell bangles has a long survival.

The following are the principal types.

- (a) bangles with a broad groove on the outer surface bounded on both ends by raised edges.
- (b) bangles with a heart-shaped or a truncated barrel-shaped knob on the outer surface.
- (c) similar to above but with the knob having incised decoration.
- (c)₁ as above but with the rectangular knob having incisions at random and bounded on both the sides by vertical incisions.
- (d)₁ having either a single or pairs of vertical incised lines.
- (d)₂ with a series of slanting incised lines on the outer surface.
- (d)₃ with incised lines, chevrons and diamonds.
- (d)₄ with a single thin but deep groove on the outer surface.
- (d)₅ with a number of shallow grooves on the outer surface.
- (e) miscellaneous, ungrouped decorations.

The periodwise distribution of these types is given in the chart below.

Types	Periods.					Unstratified
	III	IV	V	VI	VII	
a				21 M	1 M + 1 N	
b				10 M	M + 1 N	
c				4 M		
c ₁					1 M	
d ₁				3 M	1 M	1 M
d ₂				3 M		1 M
d ₃				2 M		
d ₄		3 N				
d ₅				1 M	1 N	
e		1 N	1 N		2 N	

OBJECTS OF BONE, IVORY, STEATITE AND SHELL

The illustrated specimens are described below.

Type a

- Fig. 107. No. 1 Fragment, clamp-like section, broad groove bounded by raised edges on the outer surface, cream coloured shell, Maximum breadth 14 mms., Maximum thickness 3 mms. No. 671, MHSR. II. ii. D (5). Period VI.
 No. 2 Similar to above but of small size, probably of a child. No. 453, MHSR. V. i. B (3). Period VI.

Type b

- No. 3 Fragment, truncated plano-convex section, irregular heart-shaped knob in relief on the outer surface, cut out of a thick shell. Breadth 13 mms., thickness 9 mms. No. 712 a, MHSR. II. ii. B (5). Period VI.

Type c

- No. 4 Fragment, rectangular section, greyish-yellow shell, outer surface having an oval knob run over by two vertical incisions. No. 552, MHSR. II. ii. D (4). Period VI.

Type d₁

- No. 5 Fragment, rectangular section, bright-white shell, outer surface having pairs of vertically incised linear decoration. No. 567a, MHSR. Unstratified.

Type d₂

- No. 6 Fragment, rectangular in section, dirty creamy shell, oblique incisions deeper and broader at one end only. No. 577, MHSR. II. ii. C (4). Period VI.

Type d₃

- No. 7 Fragmentary piece, rectangular section, pure-white shell, outer surface bearing a design of pairs of two vertical lines enclosing an incomplete chevron to the right. No. 593 a, MHSR. II. ii. G (4). Period VI.
 No. 8 Fragment, somewhat plano-convex section, white shell, outer surface having incised diamonds and other random incisions. No. 596 a, MHSR. II. ii. A (4). Period VI.
 No. 9 Fragment, rectangular section with a corrugated top due to the upper surface having three shallow grooves. No. 476, MHSR. II. ii. B (4). Period VI.

Type e

- No. 10 Fragment, square in section, the upper surface having small rectangular knobs in relief carved out of squarish platforms. No. 139, NVT. I. i. E (1). Period VII.
 No. 11 Fragment, irregularly rectangular surface, the outer surface having incisions which leave a saw-like outline. No. 147, NVT. I. i. E (1). Period VII.
 No. 12 Fragment, section similar to solid 'B', outer surface having incised design of vertical lines on both sides of the groove, the former bounded on the top by a pair of horizontal lines. No. 950, MHSR. II. ii. A (11). Period V.

Bangles with Copper Revetment

Three bangle fragments had copper revetments. It seems that the perforations were made with a sharp, thin drill and then the bangle pieces

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were revetted. The purpose of this process is not clear. It would have been readily understandable had the pieces been of elaborately decorated bangles. Since all the pieces are of plain variety it is likely that after revetting, the bright dots of copper had a decorative effect on the white shell surface. Shell bangles with similar copper rivets are reported from Rairh which show "that plating of bronze or some other metal was used for decorative purposes."¹⁰

Of these, No. 852, MHSR, II. ii. B (8), Period VI, has a drop-shaped section and a single neat perforation. The inner surface of this piece has a lump of copper which shows that after the perforation, liquid copper was poured on the inner surface so that it filled the perforation neatly and did not soil the upper surface. No. 672, MHSR, II. ii. B (5), Period VI, has a square section showing only the perforation, while No. 386, MHSR, V. i. A (1), Period VII, plano-convex in section, has two perforations with copper inside.

RINGS (Fig. 107, No. 13)

Besides bangles, two fragmentary rings were found. Both these pieces belong to the layers of Period VI which was characterised by a large-scale bangle industry at Maheshvar.

The unillustrated specimen is 20 mms. in diameter and has a uniform thickness of 1.5 mms. It is cut out of a milk-white shell, and has no decoration whatsoever. No. 390, MHSR, V. i. A (3) Period VI.

Fig. 107. No. 13 A half-piece with a circular section, prepared out of a yellowish shell, has a conical top, a diameter of 22 mms. and a thickness of 2.5 mms. No. 4405, MHSR, II. ii. C (2) Period VI.

OTHER OBJECTS OF SHELL (Fig. 107, Nos. 14, 15 and 16)

Several other objects of shell were found. Most of these are fragmentary and hence their shape and purpose cannot be ascertained.

Some of the objects with possible identifications are described below.

Fig. 107. No. 14 A fragmentary piece so cut and decorated as to appear like the hilt of a dagger, possibly an amulet. Length 23 mms., thickness 3 mms. No. 620, MHSR, II. ii. B (4). Period VI.

No. 15 A fragment, oval in shape, with four neat perforations. Diameter 22 mms. thickness 3 mms. No. 3316, NVT, I. i. B (6). Period III.

No. 16 Fragment, possibly of a lid, cut out of a thick shell whose edges are levelled out from a flat top, inner surface concave. Diameter 36 mms., and thickness 3 mms. No. 740, MHSR, II. ii. A (6). Period VI.

The unillustrated specimens coming from the layers of Period VI at NVT are fragmentary cone-like pieces and fragments of waste pieces of cut shells.

10. PURI, K. N., *Excavations at Rairh*, p. 41. For a revetted shell piece from Nasik, see SANKALIA and DEO, *op. cit.*, Pl. XXIX, No. 1.

STONE OBJECTS

XIII

STONE OBJECTS

Saddle Querns

Generally two types of saddle querns are found.

Type I—With flat upper grinding surface.

Type II—With concave or depressed surface.

MARSHALL¹ suggests that since the majority of querns are of type II (with somewhat acute depressions) grain (mostly wheat) was rather pounded than rubbed. While MACKAY² thinks that type I specimens are for grinding grains, whereas type II for pounding herbs and spices. It seems both missed the point. Except in the cases of very acutely depressed querns, no such difference as to suggest different uses can be found. Most acutely depressed querns however may be prototypes of mortars and we shall exclude their discussion here. Type II specimen appear to be the final shape of type I specimens after a long use. Depressions are generally of two types. In one case, we find concavity both from end to end as also from side to side. In the second case the concavity is only restricted to the end to end i.e. the longitudinal axis; along the side to side axis it is flat or very nearly flat. The nature of the depression depends upon the nature of the rubber used. A small discoid rubber making to and fro movement will tend to make the depression in both the axis, while a long and elongated rubber will restrict it to one axis. Its associations with kitchens and grain storerooms in Iran³ or Central Europe⁴ makes it definitely clear that these were for making grain suitable for consumption. This however does not imply that dry flour was produced. In fact it is possible to make dry flour from this type of querns only with substantial trouble. A mortar or a rotary quern is more suitable for the purpose. Co-existence of mortars with this type of querns at Harappa strengthens the presumption.⁵

1. J. MARSHALL, *Mohenjo-daro and the Indus Civilization*, II, p. 456.
2. E. MACKAY, *Further Excavations at Mohenjo-daro*, II, p. 392.
3. E. F. SCHMIDT, *Excavations at Tepe Hissar, Iran* (1931-32), pp. 59, 72 and 298.
4. V. G. CHILDE, *The Dawn of European Civilization*, p. 138, (1947). Also see CHILDE, *The Danube in Prehistory*, pp. 45 and 103.
5. R. E. M. WHEELER, "Harappa 1946", *Ancient India* No. 3, p. 78, pl. XXXIV, 1947. For similar case in Greece, see *The Dawn of European Civilization*, p. 58.

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As SANKALIA⁶ has pointed out it was more probable that the cereals were kept in water over-night and then made to a thick paste which was perhaps meant to be baked into some sort of bread. This sort of preparation is widespread in India especially in the South and is also reported from Egypt.⁷

At Navdatoli type II querns occur right from the bottom of the protohistoric layers and though their occurrence became fewer, they never actually ceased to exist during early historic period. (Chart showing distribution). During this time its form or shape however did not change. After the gap during the Muslim-Maratha period they became thinner and of regular shapes with straight sides and flat undersurfaces.

1. NVT. TR. III (1) No. 2053.

A fragment of a saddle quern, very thin with regular straight side, and flat under and upper surfaces. The working surface can be distinguished by smoothed areas, probably sub-triangular in shape.

2. NVT. TR. I (4) No. 3028a (Fig. 115. No. 12).

An almost complete saddle quern; sides very crudely fashioned to give an irregular outline, undersurface shows a very small flat surface, remaining portion crudely fashioned, working surface broad ovalloid, slightly smoothed and showing slight depression due to use.

Max. length—432 mm. Max. breadth—340 mm. Max. thickness—121 mm. (Maximum thickness does not occur at the maximum breadth.)

Anvils

These are small (148—229 mm. in length) roundish or ovalloid or very rarely rectangular pieces of stone with one surface slightly convex (No. 4132), or as in most cases, flat while the other may be partly or completely a flat surface or may be even highly convex. These are generally made of sandstone or other coarse gritty stones and in the case of Navdatoli-Maheshwar specimens they are almost without any exception made from river-worn pebbles. Altogether twenty-seven such specimens were found and their shapes and forms make their preparation from river pebbles clear. A number of them shows original rounded pebbly surfaces (NVT 4690, 4801) opposite to the flat, evidently working surface. The rounded surface was also used and gradually they began to show small flat surfaces with thick bodies (NVT 4292). In the final stage both the surfaces became

6. SANKALIA, H. D., "Cultural Significance of Saddle Querns" *Journal Anthropological Society of India*, New Series, IV (1953), pp. 32-39.

7. John GARSTANG, *Burial Customs of Ancient Egypt*, p. 128.

8. See accompanying chart showing the distribution.

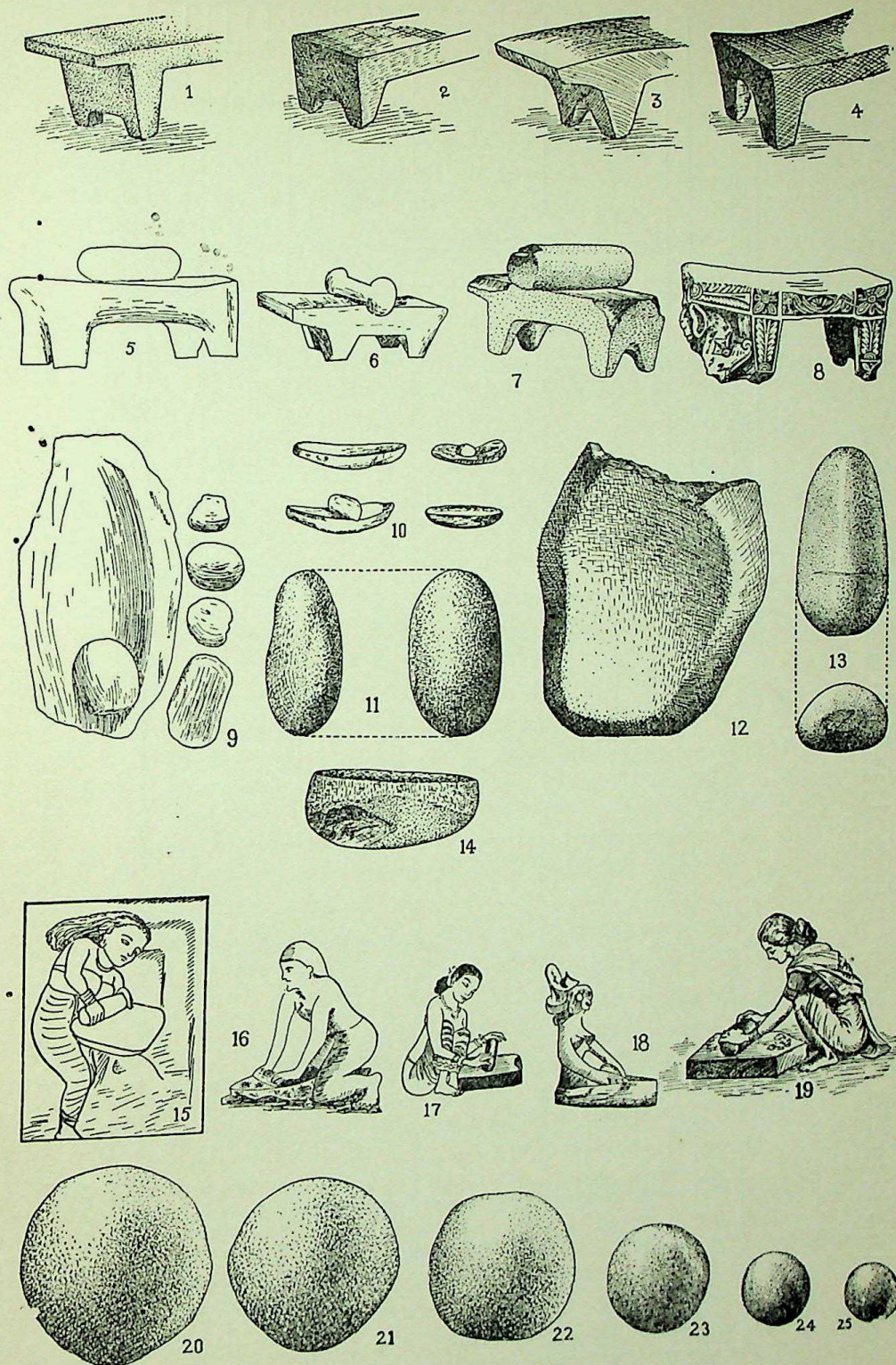


Fig. 115 Querns, Anvils, Hammerstones and Sling stones (See pp. 234-40)

MAHESHWAR

TR-I		TR-II		TR-III
MUSLIM - MARATHA	① —	①	②	①
GAP				
EARLY - HISTORIC III 200 AD - 500 AD	②	② —		
	③ —	③ —		
	④	④ —		
	⑤	⑤ —		
	⑥	⑥ —		
		⑦ —		
EARLY - HISTORIC II 100 BC - 200 AD		⑧ —		
		⑨ —		
		⑩ —		
		⑪ —		
		⑫ —		
EARLY - HISTORIC I 400 BC - 100 BC		⑬ —	②	
		⑭ —	③ —	
		⑮ —	④ —	
		⑯ —	⑤ —	
		⑰ —	⑥ —	
		⑱ —	⑦ —	
PROTO - HISTORIC		⑲ —	⑧ —	
			⑨ —	
			⑩ —	
			⑪ —	
			⑫ —	
			⑬ —	

KEY → SADDLE QUERNS - □, LEGGED QUERNS - ⚡, MULLERS - ⬭, MULLERS - ⬭^{TYPE I}, ANVILS - □, HAMMER STONES - O, INCOMPLETE BUDDIST STUPA - 🗿, HIGH FREQUENCIES ARE DARK FIELDS VIZ - 🗿^{TYPE II} - 🗿^{TYPE II} - 🗿^{TYPE II}.

NAV DATOLI

TR-I	TR-II	TR-III	TR-IV	TR-V
① ○	① △ □	① ○ □ ○ ○ ② ○	① △	①
② △ □ ○	② △ □	③ ○ □ ○ ○ ④ ○ □ ○ ○ ⑤ ○ □ ○ ○ ⑥ ○ □ ○ ○ ⑦ ○ □ ○ ○ ⑧ ○ □ ○ ○	② FLOOD II ③ △ FLOOD I	② FLOOD II
③ △ □ ○	③ △ □	⑩ ○ □	④ △ □	③ △
④ △ □ ○	④ △ □	⑪ ○ ●	⑤ △	④ △ □
⑤ △ □ ○	⑤ △ □	⑫ △ □ ●	⑥	⑤ △ □
⑥ △ □ ○	⑥ △ □	⑬ ○ □	⑦	⑥
⑦ △ □ ○	⑦ △ □	⑭ ○	⑧	⑦
⑧ ○	⑧ ○	⑮ ○	⑨	⑧

Fig. 115b. Distribution Chart of Querns Sec p. 235

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equally flat and wide and the thickness diminished (4902). SANKALIA⁹ considered them small querns for grinding stone and bone tools and of mesolithic antiquity. Its function as an anvil was very definitely shown at Navdatoli where it was found in association with hundreds of small stone chips and microliths in different manufacturing stages.¹⁰ Also it may be quite possible that it had such a restricted function only during mesolithic times and developed dual function later. It is almost definite that they were used as rubber¹¹ too during the prehistoric period at Navdatoli. Its association with querns in the distribution may probably suggest that way. This specific suggestion is further strengthened by parallel finds from the Fayum.¹²

As the distribution chart will show the occurrence of these specimens is practically completely restricted to the proto-historic period at Navdatoli.

1. NVT. TR. I (7) No. 4132.

A complete anvil, roughly egg shaped, upper surface slightly convex, under surface highly convex and shows original pebble-surface, cross section roughly oval with one end broader than the other.

Max. length 160 mm. Max. breadth 107 mm. Max. thickness 78 mm.

2. NVT. TR. I (7) No. 4292 (Fig. 115 No. 14.)

A small anvil, partly broken, roughly elongated oval-shaped, upper surface flat showing certain smooth patches, under surface slightly convex and rough but shows small smooth patches, cross section roughly elliptical with one end almost flat.

Max. length—148 mm. Max. breadth—86 mm. Max. thickness—42 mm.

3. NVT. TR. V (4) No. 4690.

A complete anvil, oval in shape, upper surface flat and rough, undersurface convex and shows original smooth pebbly surface, cross-section plano-convex.

Max. length 164 mm. Max. breadth 111 mm. Max. thickness 44 mm.

4. NVT. TR. III (11) No. 4902.

A complete anvil, flat on both the surfaces, roughly oval in shape with rectangular cross-section.

Max. length 185 mm. Max. breadth 96 mm. Max. thickness 38 mm.

9. SANKALIA, *op. cit.*, p. 1.

10. In the excavations at Nevasa (1954-55) it was found associated with partly polished celts.

11. In some specimens, as distinct from normal rough flat surface, smooth patches are seen. These are evidently due to rubbing.

12. G. CATON-THOMPSON and E. W. GARDNER, *op. cit.*, Vol. II, pl. VII, Fig. 2.

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Legged Querns

This is the most developed type of querns with four well cut legs to support the body, obviously demanding a higher skill and workmanship. But its origin is not so clear. Distinctly enough it shows some culture diffusion. Technologically earlier type of specimens come from Adichannalur where it shows crude and definite primitive features. Throughout the early historic period¹⁴ it becomes extremely common and in many sites replaces the saddle quern. At the beginning this type of quern shows an extremely well-made flat surface with four legs as in the Adichannalur specimens. Gradually one end is elongated and protrudes. This protruding end may be straight or slightly rounded.¹⁵ In some of the developed specimens it is highly ornamented and the workmanship is perhaps at zenith at Taxila.¹⁶ In some cases, as in Nasik¹⁷, Buddhist 'triratna', 'Svastika' symbols or simple linear lines are seen. SANKALIA has ascribed 'Maurya-Guptan' age to these querns. All our specimens come from the early historic periods, thus supporting his dating. These, though do not completely oust the saddle querns, at least limit their number to a few.

The Navdatoli-Maheshwar specimens do not show all the different types as mentioned in the previous paragraph. All the specimens belong to the second category i.e. with one end (straight or rounded) protruding beyond the legs. On the basis of the nature of the legs the specimens can be grouped into four types.

Type I With legs almost undifferentiated. (Fig. 115 No. 1).

Specimens of this type have got flat, broad, slab-like pieces, one in the front and one at the rear, to support the body. The extreme end of the slabs are cut to form rudimentary legs.

Type II With legs partly differentiated. (No. 2).

Specimens of this group have their legs better formed than in the former type. The slabs are cut almost in the middle and the legs are more definite.

13. Dr. S. B. DEO, however, described them as simple querns, [H. D. SANKALIA and S. B. DEO, *Report on the Excavations at Nasik*, p. 117,] while Dr. SANKALIA called them legged querns. I think a separate name must be given to it, which will differentiate it from the normal saddle querns looking like saddles. "Simple legged" quern may be used till a better word can be found for it.
14. H. D. SANKALIA, and M. G. DIKSHIT, *Excavations at (Brahmapuri) Kolhapur*, pl. XXXI, E.
15. K. N. PURI, *Excavations at Rairh*, 1939-40. pl. XVIII, fig. 5.
16. *Annual Report, Archaeological Survey of India*, 1926-27, pl. XXVII, fig. 5.
17. H. D. SANKALIA and S. B. DEO, *op. cit.*, p. 117, pl. XXVIII, figs. 2 and 3.

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Type III With legs differentiated but not separated. (No. 3).

Specimens of this group have well formed, prominent legs. The slab is virtually absent but the legs are connected with each other near the body.

Type IV With legs completely separated from each other. (No. 4).

Specimens of this group have their legs, prominently separated from each other.

These four types show no relationship with the time-scale at Navdatoli. At best they can be taken as different types with concurrent existence. NVT 834 shows a peculiar character in having a rudimentary fifth leg just in the middle of the body. The specimen is broken and as such it cannot be decided whether the rudimentary leg was to copy the genitals of a male quadruped to make the specimen nearer to a perfect zoomorphic one.

SANKALIA considers this type of querns as more handy than the modern variety. Both its origin partially replacing the saddle querns and extinction are obscure and need special study. This truly handy specimen certainly suggests some difference in food habits. Thus while it is very fitting for grinding spices it is too small to make paste of rice and pulses. Even it is less efficient for grinding *haldi* (turmeric) than the bigger saddle querns when thick paste is desired. It may thus be suggested that making preparations from rice or pulses pastes went fairly out of use for certain time and the use of this type of querns was limited till the the period when pastes again became popular.

1. MHSR. TR. II 11 No. 942 Fig. 115 No. 7.

An almost complete legged quern, made of red sandstone ; broken at different parts ; body projecting on one side beyond the leg while the other end is in the vertical line of the hind legs. The front pair of legs are connected together upto two-third of the body and so is the hind pair.

Length 305 mm. Breadth 143 mm. Max. thickness 75 mm. Height of the leg 83 mm. Breadth of the leg 61 mm. The region projected beyond the legs 50 mm.

Mullers

These are elongated stones—either simple undressed river-worn pebbles or well dressed cylindrical objects. These form the upper or the moving piece for a saddle quern. However, they are functionally different from simple rubbers where the to and from movement can be executed by one hand only. These mullers definitely need both the hands to hold the two ends of it and to manipulate it along the plane at right angle to its length. The method of manipulation has not substantially differed from the proto-historic times (Egyptian 5th Dynasty) to the modern period.

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At Navdatoli-Maheshwar mullers occur down from the earliest layers of proto-historic period. At least two types can clearly be distinguished.

Type I These are made exclusively from river-worn pebbles without slightest of retouch. With use they tend to be flat on one side. Their occurrence is strictly restricted to the proto-historic period.

1. NVT. TR. III, 5, No. 4361 Fig. 115 No. 13.

A simple long and moderately broad river-worn pebble showing no retouch; roughly pea-seed-shaped, bilaterally asymmetrical in all the planes, both ends rounded as in the original pebbles, undersurface flat and smooth due probably to use, rough and pitted dorsal surface convex in varying degrees, ends show bruises signifying use, cross section plano-convex.

Max. length 187 mm. Max. breadth 76 mm. Max. thickness 61 mm.

Type II These specimens are made from a block of stone or a big river-worn pebble but only after carefully fashioning it. They occur just at the beginning of the early historic period and continue even to-day. DEO differentiates three types from Nasik.¹⁸

They are :—

- (i) perfectly cylindrical with round section.
- (ii) cylindercial with slightly double concave middle portion.
- (iii) cylinderical with middle portion broader than the ends.

It becomes obvious, however, that the three types are not typologically different from one another but fundamentally show one and the same thing at different stages of use. All the three stages are found at Navdatoli-Maheshwar. Besides these the following two types (stages) also occur :—

- (iv) with square or rectangular cross-section,
- (v) somewhat long dumb-bell-shaped i.e. the ends show knob-like bulgings.

A little note to these stages is necessary to show their relative importance. It seems to me that all the types were developed from the primary stage (i), where the specimen is with an uniform and perfectly cylindrical body. Stage (ii) only justifies the statement showing cylindrical ends, while the middle portion becomes double concave. A question may be raised as to why the ends did not suffer the same change though they were subjected to more pressure. It will be evident therefore that these mullers were used on querns whose breadth was smaller than the muller's length. Stage (iii)

18. H. D. SANKALIA and S. B. DEO, *op. cit.*, p. 116.

19. See K. N. PURI, *op. cit.*, pl. XVIII, fig. 5.

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demands a broader and more favourable saddle quern with central region slightly depressed than the sides. Also it is due to the fact that the line of pressure directly passes through the ends. (iv) All the specimens of rectangular and square cross sections are also derived from the cylindrical type. We can ascertain this in two ways. Firstly, all the specimens with square or rectangular sections show signs of much use. Secondly, it will be evident from its modern parallels that the mullers were dragged on the querns and not rolled. In the fifth stage, the dumb-bell-shape is again due to the existence of legged querns whose breadth is smaller than the muller's length.

1. MHSR. TR. II (5), No. 631.

A small muller (due to the absence of sufficient numbers of smaller specimens a separate sub-type was not made); with rough body, ends flat, cross section rectangular.

Length 102 mm. Breadth 53 mm. Thickness 45 mm.

2. MHSR. TR. II (7), No. 817, Fig. 115 No. 7 (shown on the legged quern).

A complete muller, perfectly cylindrical body, body surface smooth, made from red sandstone.

Length 237 mm. Diameter 58 mm.

3. MHSR. TR. II (11), No. 983.

A fragment of a muller with uniformly cylindrical body with the *existing* flat end bulging out like a dumb-bell, diameter 60 mm.

Hammer Stones

These are simple pebbles of shapes varying from an elongated drop to a thick disc. Its use, however, had nothing to do with the querns. Its association with microliths and anvils in factory sites at Navdatoli and the bruised regions at the ends or round the circumference of the disc suggests that these were used as hammers to strike off blades from the cores. Presence of a number of broken pebbles and its fragments also strengthens the idea. Their use as some sort of a rubber also may be a possibility where the surface to be rubbed is small, because always the circumference of the discoid ones bear the signs of such possible use.

Some of the specimens show battered ends such as can only be produced by repeating similar strokes at a particular region at a particular angle or in other words using it as a hammer. Their occurrence in Europe, Egypt, India, Indo-China, leaves very little doubt about their function. Such type is technologically the ancestor of the grooved hammer-stones so common in Egypt, Mesopotamia, Danubian Europe and India.

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1. NVT. TR.III (11), No. 4853.

A big, roughly drop-shaped pebble with the extreme ends showing bruised regions due possibly to use.

Length 137 mm. Max. breadth 97 mm. Max. thickness 71 mm.

2. NVT. TR. I (4) No. X Fig. 115 No. 11.

A thick discoid pebble with a continuous bruised surface round the circumference making the surface flat. The bruised surface, however, is not uniform either in breadth or in the nature of bruising all throughout.

System of Weights at Chalcolithic Navdatoli

Amongst the objects excavated at Navdatoli are forty-one solid stone balls. Practically the whole lot came from the Chalcolithic (period III) layers. Of the forty-one specimens, twenty-two are perfectly spherical with smooth body, eight spherical or discoid showing small fractures and eleven broken ones. The specimens of the first category were carefully weighed²⁰ and were found to stand in simple ratios with one another. Some of the specimens showed the same ratio and were grouped together. After Hemmy²¹, the mean weight of each group was divided by the ratio it showed to the smallest specimen and the result was multiplied by the number of specimens in that specific group. The products of all the groups²² were added together and then divided by the total number of specimens. Thus giving equal importance to all the specimens we arrived at the mean smallest weight.²³ To make the different ratios full numbers half of the mean smallest weight was chosen as the unit. The mean values of all other groups were found out by multiplying the unit by double the original ratio.

The specimens of the second category were found to be either incomplete or slightly fractured. These fractures were made evidently to bring the specimens to proper weight. Actually five of the eight specimens conformed to the actual ratios.

The third category is the result of unsuccessful attempts to bring the specimens to proper weight. The specimens gave way in the process.

It is interesting to note that the system of weight thus arrived at differs much from that at Mohenjo-daro or Harappa, but closely resembles the light Babylonian system as can be found from the following table.

20. Corrected up to the first decimal place.

21. In this calculation here even a single specimen sometimes represents a group.

22. J. MARSHALL, *Mohenjo-daro and Indus Valley Civilization*, Vol. II, pp. 589-595.

23. *Ibid.*

STONE OBJECTS

a	b	c	d	e	f	g	h	i	j	k
S. No. of the group	No. of sp. in the group	Mean weight of the group	Mean deviation	Limit	Calculated value	Diff. between Columns c and f	Ratio	Designation	Remarks	After Light Babylonian system
20	1	652.3	...	...	666.0	13.7	150	T		75 shekels or 1 1/4 MINA
19	1	533.1	...	...	532.8	1.3	120	S		60 Shekels or 1 MINA
18	1	388.7	...	...	399.6	10.9	90	R		45 shekels or 3/4 MINA
17	1	289.4	...	...	284.16	5.24	64	Q		32 shekels
16	2	257.85	4.65	253.2-262.5	266.4	8.65	60	P		30 shekels or 1/2 MINA
15	2	212.83	3.18	207.4-219.7	213.12	.29	48	O		24 shekels or 2/5 MINA
14	4	182.13	2.12	178.5-186.0	177.6	4.53	40	N		20 shekels or 1/3 MINA
13	1	160.4	...	...	177.6	17.2	40	N	Shows a fracture	20 shekels or 1/3 MINA
12	1	150.4	...	...	142.08	8.32	32	M		16 shekels
11	1	130.5	...	...	133.2	2.7	30	L		15 shekels or 1/4 MINA
10	2	106.5	.9	104.6-108.4	106.56	0.06	24	K		12 shekels or 1/5 MINA
9	1	95.5	...	...	106.56	11.06	24	K	Shows a fracture	12 shekels or 1/5 MINA
8	1	92.4	...	...	88.8	3.6	20	J		10 shekels or 1/6 MINA
7	1	81.7	...	...	79.92	1.78	18	H		9 shekels
6	2	72.45	1.35	71.1-73.8	71.04	1.41	16	G		8 shekels
5	1	27.3	...	...	26.04	.66	6	F		3 shekels
4	1	21.2	...	...	22.2	1.0	5	E		
3	1	17.3	17.74	.44	4	D		2 shekels
2	3	12.9	.77	11.8-13.5	13.32	.42	3	C		
1	1	8.2	8.88	.68	2	B		1 shekel

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culture having important common features with those of Malwa, were recovered a couple of years earlier at Nasik and Jorwe (1950-51). As yet the full reports of all the excavations have not been published. But one thing is certain, viz. the relative stratigraphical position of the Chalcolithic Culture. It generally lies over the black or dark-brown soil and underlies the debris of the earliest historical cultures characterized by the use of iron, coins and a black-and-red pottery associated with the NBP, and very often buildings of large-sized bricks.

The Chalcolithic Cultures are characterized by (1) painted pottery, (2) a specialised blade industry, (3) steatite and faience beads along with those of carnelian, agate, and copper, (4) copper or bronze flat axes, chisels and awl, (5) mace-heads, (6) polished stone axes, and (7) peculiar terracotta figurines.

On these seven or eight features, No. 2 is invariably there. No. 3 is not a very characteristic feature, and diagnostically so useful. The same may be said of No. 4, as the objects are very few in number and not typical. Nos. 5 and 7 are so far well documented from Navdatoli and Maheswar, and No. 6 only from Chandoli, Nevasa and Brahmagiri. Thus we have to fall back upon pottery for a comparative study. In this the published or the pottery best known to us is used as a standard of comparison. Among the former is the pottery unearthed by excavations and explorations from Sind, the Punjab and North-west Frontier and Iran. Among the latter are those from the excavations and explorations in the Deccan, Central India and Saurashtra.

With regard to the fabric, Nagda and other Malwa sites to the north of Narmada and Prakash and Bahal on the south seem to be closely related, though each having some peculiarity—typical forms, fabric and designs—of their own. So before attempting the comparison, a very brief summary of the various fabrics and forms from Nagda, Prakash and Bahal is given.

Nagda

The Nagda collection as studied¹ and illustrated² has all the four or five kinds of fabrics in Chalcolithic pottery as at NVT (above p. 84), and also in the same proportion. There are even a few (intrusive ?) sherds of fine

1. At the time of the Symposium in New Delhi on 15-17th September 1957.

2. *Indian Archaeology—A Review for 1955-56* (1956), pp. 13-19.

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fabric with cream or light-brown slip with thick bands in black, light-red or light-chocolate [Ngd. 4-64. I. (18) XIX—XX and 16A. XIV—XVI, and coloured plate A]

So far as forms are concerned, not much can be said, unless and until all the representative shapes are illustrated. Probably all the forms occur as at NVT. From the illustrations it would appear that while there is no difference in bowl types, a greater variety of vessels with globular belly seems to be there at Nagda³. While the small vessel with a low belly and high neck (Fig. 7, centre) in the white-slipped ware (black-and-cream) seems to be peculiar to Nagda, though at NVT we have one with a carinated belly and dancing figures (T. 63 p. 113).

With regard to the designs, Nagda has more than three-fourths of the NVT, and some nine new ones, along with the buckranian, hatched hollow animals, and diamonds with volutes on either end seem to be very striking.

Prakash

This near identity disappears with Prakash⁵, though it has all the fabrics and forms of the Malwa or NVT ware—such as high-necked jars with lines round the neck (T. 8 p. 90), vessels with thin, high neck and everted rim having the “rising sun” design (T. 9 p. 90), dishes with carinated base and clubbed rim (T. 36 p. 103), and vessels with short clubbed rim as in Nasik I (T. 7 p. 103). In addition, it has, however, certain designs like the spotted tiger, with his neck turned back⁶ and crane-like birds among reeds and bushes—as at Sialk⁷ which have not yet been found at NVT.

The Jorwe fabric occurs between layers 21-46 and includes primarily bowls and large as well as tiny globular vessels.

Besides these two, Prakash has coarse grey, fine grey-and-black (inside) and incised (red, as well as grey or black). There is no white-slipped ware, nor the black-and-red with paintings in white. However, the fine grey-and-black inside having occasional faint linear designs in white seems to be a variant of the NVT, Nagda and Ahar black-and-red with paintings in white.

3. *Ibid.*, Fig. 5.

4. cf. GHIRSHMAN, *Fouilles des Sialk*, Vol. I, pl. lxii, s. 448.

5. *Indian Archaeology—A Review*, 1954-55, pp. 13-14, pl. XVIII-XXI.

6. *Ibid.*, pl. xv. B.

7. GHIRSHMAN, *op. cit.* pl. lxxix, A. 7; D. 1.

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As at NVT and also at Nagda, Prakash and Nevasa there is also a very small percentage of dull grey ware, having (a removable) ochre-paint on the rim portion (see above p. 115).

The incised ware is identical in fabric and design with that of NVT. But at least three designs seem to be new to Prakash. One is a broad and deep chevron covering the entire surface of the coarse, large platter⁸; second, a thumb nail, raised and deeply incised design round the neck and third "circles-and-dots" in shallow relief round the neck and shoulder.

With regard to the fine grey-and-black with linear paintings, the Prakash vessels are slightly bigger than at NVT, though the latter seems to have greater variety of bowl forms and designs in white.

There are also two vessels having a fine, smooth tan slip. Though bigger and having a slightly thicker section than the one from MHSR (7) (above p. 116), they compare favourably as far as the fabric is concerned. Both are from the lowest layers (50-51) at Prakash.

Bahal

During the fresh excavations at Bahal⁹, it was observed that the lower layers of the Chalcolithic (IA) yielded a coarse hand-made greyish pottery, like the Brahmagiri (and Jorwe-Nevasa) urns, with a trace of thinner grey ware with painting in red ochre on the rim portion. This last feature reminds us of a similar but thicker fabric at NVT, MHSR and also at Nevasa (see p. 115).

With the phase IB we find a mixture of NVT (Malwa), Jorwe-Nevasa and the typical Megalithic pottery.¹⁰ In particular, we may mention¹¹ the channel or cut spout, the high or long-necked jar, and a burnished grey-and-black ware with oblique paintings in white indicating contact with NVT.

Jorwe-Nevasa

This Chalcolithic Culture,¹² as far as its pottery and polished stone axes are concerned, seems to form a separate group, with Brahmagiri

8. Are these husking trays like that of Hassuna I? See *Journal of Near Eastern Society*, IV (1945), p. 277-78.

9. *Indian Archaeology—A Review*, 1956-57, pp. 17-18, pl. XIX-XXII.

10. *Ibid.*, p. 19, Fig. 8, pl. XX A.

11. Based on the discussion in the Symposium.

12. *Indian Archaeology—A Review*, 1954-55 (1955), pp. 5-7, and 1955-56 (1956), pp. 8-9.

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as its southernmost limit, and Maski, Piklihal and Bellary probably constituting its eastern limit. However, its typical fabric and bowl forms, though not as yet the tubular spouted vessels, occur in the top layers of the Chalcolithic layers at NVT (See T. 19-21 p. 95), and also at Prakash and Bahal IB¹³. Even a sort of a tubular spout is found at Bahal IB, Prakash IB and Nagda I. So also a dull, thick grey ware with ochre-paint is found in very small quantities at Nevasa. There is also a small percentage of ochre-paint as at NVT, Prakash and Bahal.

Ahar, Rangpur, Lothal, Somnath

These cultures stand for three or four distinct groups. Lothal, Rangpur I and Somnath IB belong to a distinct group of the Chalcolithic, having probably their root in the Harappan. Unless and until the full reports on the recent excavations are published, no detailed comparison can be instituted. The published data as well as our personal study and the discussion at the Symposium suggest that while there is general dissimilarity between the NVT and Rangpur IIB pottery, resemblances in certain specific forms may be noted.

1. *Carinated bowl* (Jorwe fabric)
NVT. I, RGP. II. (cf *Bulletin Deccan College Research Institute*. XI, pl. IV, 3, 5).
2. *Dish-on-stand, the dish having carinated ledge*
NVT. IA-IB, RGP. IIA-IIB. Prabhās IA-IB and Ahār IA.
3. *Dish (plain) with beaded or clubbed rim*
NVT. IA-IB. with RGP. IIC-III, Prabhās IIA, Ahār IA.
4. *Dish-on-stand (corrugated stems)*
NVT. IB, RGP. III, Prabhās IIA, and Ahār IA.
5. *Long-necked jar.*
NVT. IA-IB, RGP. IIC, Prabhās IIC, Ahār IA.
6. *Basin with straight sides and beaded rim.*
NVT. IB, RGP. IIC-III, Prabhās IB, and Amrā. I, Lākhā Bāwal I.
7. *Cream-slipped ware (matt surface) with designs in black.*
NVT. IA and Ahār IA (at both the lowest levels).
8. *Black-and-red ware with paintings in white.*
NVT. I, Ahār I, Nāgdā I, Lothal, RGP. Bahāl IB, Prākāsh I.

From the brief survey of the similarities of form and fabric between the Chalcolithic Cultures of Navdatoli, Nagda, Prakash, Bahal and Nevasa-Jorwe, Maski, Piklihal^{13a}, Sangankallu, Brahmagiri in the upper and lower

13. Based on the Symposium.

13a. Based on a talk with Dr. ALLCHIN at Poona in June 1957.

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Deccan, Ahar in Rajputana and Rangpur etc. in Saurashtra, it will be apparent that we have several groups of cultures. The Nevasa-Jorwe seems to form a compact group, with the Brahmagiri-Maski constituting probably regional variants. A re-examination¹⁵ of the painted sherds from Brahmagiri IA showed that some sherds were wheel-made and similar in fabric to those from Jorwe-Nevasa. So also the few surface sherds from Sangankallu¹⁶ found by SUBBA RAO. Those from Maski are no doubt micaceous¹⁷, but this is perhaps due to the local gneissic rock.

Navdatoli and Nagda appear to be a part of the Malwa or Central Indian Chalcolithic complex, while Prakash and Bahal and the one recently found near Poona at Chandoli¹⁸, (where beside the preponderant Jorwe fabric and forms, occur the Malwa including the cream-slipped ware and the black-and-red), might be regarded as outliers of the Malwa and the Deccan. Thus they share, probably in equal proportion, the influences from their northern and southern neighbours.

Either Ahar itself is a nucleus or a part of another group in Rajasthan having the black-and-red ware with paintings in white as the principal ware.

The Prabhas or Somnath in the extreme south of Saurashtra again constitutes another independent group (though its earlier phase betrays some Harappan influence). While higher up on the east coast, Rangpur and Lothal seem originally to have been derived from the Harappan. But Rangpur's phases or Period II and III show distinctly new influences.

In the present state of our knowledge, we do not know the source (or sources) of all these Chalcolithic Cultures, except that of RGP I and Lothal. Since these are derived from the Harappan, they might be regarded as earlier than the other Chalcolithic Cultures in Saurashtra, but whether this would be true elsewhere cannot be said for certain. For none of these cultures is yet absolutely dated (nor is the Harappan and its derivatives). So it would not be proper to say that it is the Harappan which has gradually spread over the rest of India. While we may recognize the vague Harappan

15. Examined in the Pottery Room, Central Asian Antiquities Museum, New Delhi, on 15-9-1957.

16. Examined at the Deccan College, Poona, in September 1957.

17. THAPAR, B. K., "MASKI 1954," *Ancient India*, Vol 13, p. 37.

18. On 2nd and 5th November 1957. This site has besides, a large number of dolerite flakes, and polished tool complement, suggesting a Neolithic factory. If this stratigraphically turns out to be earlier, it will be extremely important.

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influences in certain forms, e.g. the dish-on-stand¹⁹ and certain forms of dishes (above p. 100), almost all—Somnath-Prabhas, RGP II-III, Ahar-I-II, Nagda-NVT and Nevasa-Jorwe exhibit new forms and fabrics, such as the channel-spouted cups, the highly carinated vessels with painted tubular spouts, concave-sided bowls with or without stand, bowls with conoid base, white or cream-slipped ware with paintings in black and certain characteristic designs in painted and incised ware.

These we might not be able to explain with the evidence from the hitherto known sites in India, except say that Saurashtra, Rajasthan, Malwa and the Deccan were definitely in contact with each other at a certain period in their life. The Malwa and Khandesh sites freely borrowed from those of the Deccan, but the latter—as evidenced by Jorwe-Nevasā—do not seem to have taken much from those of Malwa. These, on the contrary, seem to have retained (or borrowed) the Neolithic features of the (earlier) cultures of the Deccan, Mysore and Andhra.

Is it possible then that these late Chalcolithic Cultures have been derived, as a result of very gradual diffusion of the influences and peoples from Iran and other Western Asiatic regions? Here the Bronze, Copper or the Chalcolithic Cultures not only go back to a much greater antiquity, but are found to be considerably richer and more elaborate. So an eastward spread with the various folk movements in the 2nd millennium is not impossible.

As it is, the evidence is very meagre, but certain factors are suggestive :

First, the particular technique of manufacturing the blade. This can be traced back to Jericho (Jordan) where it occurs in the Neolithic levels dated to the 5th-6th millennium B.C. Then this technique spread westwards into Europe and eastwards into India.

Second, certain forms—like the channel-spouted cup is a common feature at Sialk²⁰ and Hissar in Iran²¹, and in fact the whole of Western Asia, as far as Crete²².

Third, the tubular spout having the peculiar painted band occurs at Tepe Giyan²³.

19. THAPAR, B. K., *op. cit.*, p. 21 and p. 24.

20. See above.

21. See SANKALIA, H. D., "Spouted vessels from Nāvdā Toli and Iran" *Antiquity*, Vol. XXIX (1955), pp. 112-15.

22. GORDON, D. H., in *Iraq*, pl. XIII (1951), Fig. 1, p. 43.

23. SCHAEFFER, Claude, F. A., *Stratigraphie Comparee et Chronologie*, London (1948), Fig. 245, 25.

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Fourth, the peculiar conoid cups and concave-sided cups from NVT and RGP II²⁴ may be compared with those from Sialk and Tepe Hissar, (See here Fig. 118).

Even the dishes—or cup-on-stand—may be derived from these sources rather than from the Harappan.

Besides these few typical forms of vessels, there are the designs and the cream-or white-slipped ware.

Here one has to be extremely wary. Without handling the actual specimens from both the sites, it is indeed risky to compare the fabrics from their mere descriptions. So only attention is drawn to the fact that a cream-slipped ware with paintings in black is reported,²⁶ from certain sites in north-western Kalat, while white-or buff-slipped ware occurs in the Nal cemetery,²⁷ at Quetta²⁸ and also on the Iranian²⁹ boundaries.

The occurrence of similar designs in widely situated regions also might not mean much. So with this caution is here appended³⁰ a list of designs which do not occur so much in the Harappan³¹ as in the post-Harappan, particularly Jhukar culture, in Sind. Those from Quetta and other

24. *Bulletin Deccan College Research Institute*. Vol. XI. (1950-51), pl. II-VI.

25. SCHIMDT, ERICH F., *Excavations at Tepe Hissar Damghan* (Philadelphia, 1937).

26. CARDI, BEATRICE DE, "On the Borders of Pakistan: Recent Exploration," *Art and Letters*. Vol. XXIX, No. 1 (1950), p. 54. This is supposed to be similar to PIGGOTT's Quetta ware. Except one part of a design, viz. a small solid black dot within a white circle, there are no other comparable designs on the cream-slipped ware at NVT.

27. HARGREAVES, H., *MASI*, No. 35, p. 49, pl. XX (c).

28. cf. PIGGOTT, STUART, "A New Prehistoric Ceramic from Baluchistan", *Ancient India*, No. 3 (1947), p. 136, particularly the words "Varies from cream or pinkish colour with a white slip to the characteristically greenish..." Even we have there the "butterfly or opposed triangles" design as at NVT, with the tapering bowl. (p. 137, Fig. 3, 27).

29. Some pottery from Khurab in the Bampur basin, on the Iran-Baluchi border has fine grey and buff brownish ware. The latter two are not individually described. From STEINS' and ANDREWS' description and photographs, these look like the white-and-cream slipped ware. The shapes, particularly those given in pl. XVI (left) recall those of the white-slipped bowls from NVT.

STEIN, *Archaeological Reconnaissances Iran*, (London 1937), pp. 118-25 and pls. XIII-XVI.

30. For Mesopotamia only the repertoire of motifs in the Samarran painted pottery by EDNA TULANE in *JNES*, III (1944), pp. 69-72 and figs is here cited. Only Nos. 11, 15, 19, 43, 54, 342 (incised) are comparable to those from NVT.

31. See STARR, RICHARD F., *Indus Valley Painted Pottery*, 1941. Only Nos. 1-4, 11-15, 21-53-54, 56, 63 (partial), 82, 89, 163-67 are comparable. But of these some are not truly Harappan.

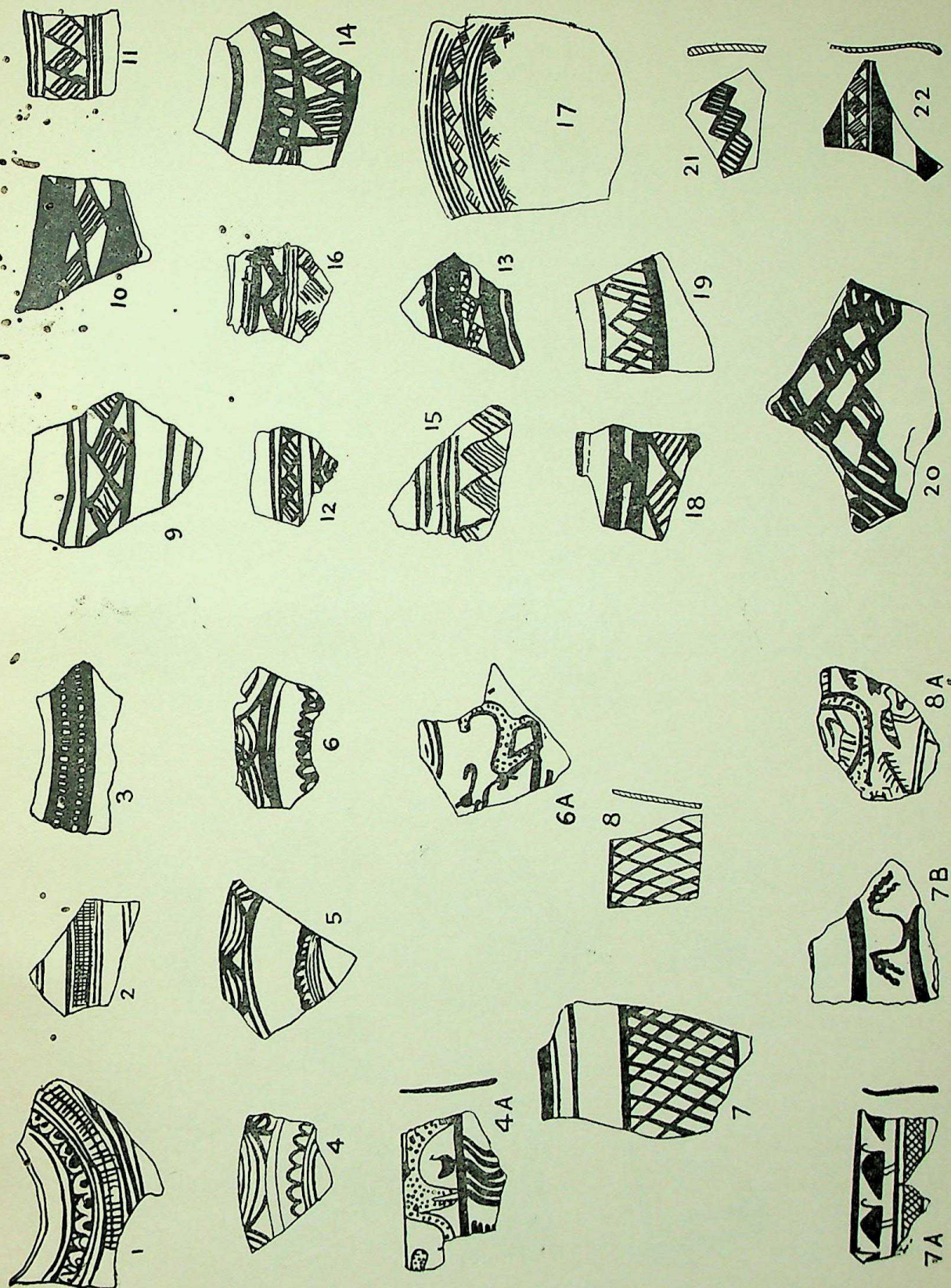


Fig. 116 Comparable pottery designs from Khandesh, Malwa, Sind, Baluchistan and Iran. (See p. 250)



Fig. 117 Comparable pottery designs from Khandesh, Malwa, Sind, Baluchistan and Pan. (See p. 250)

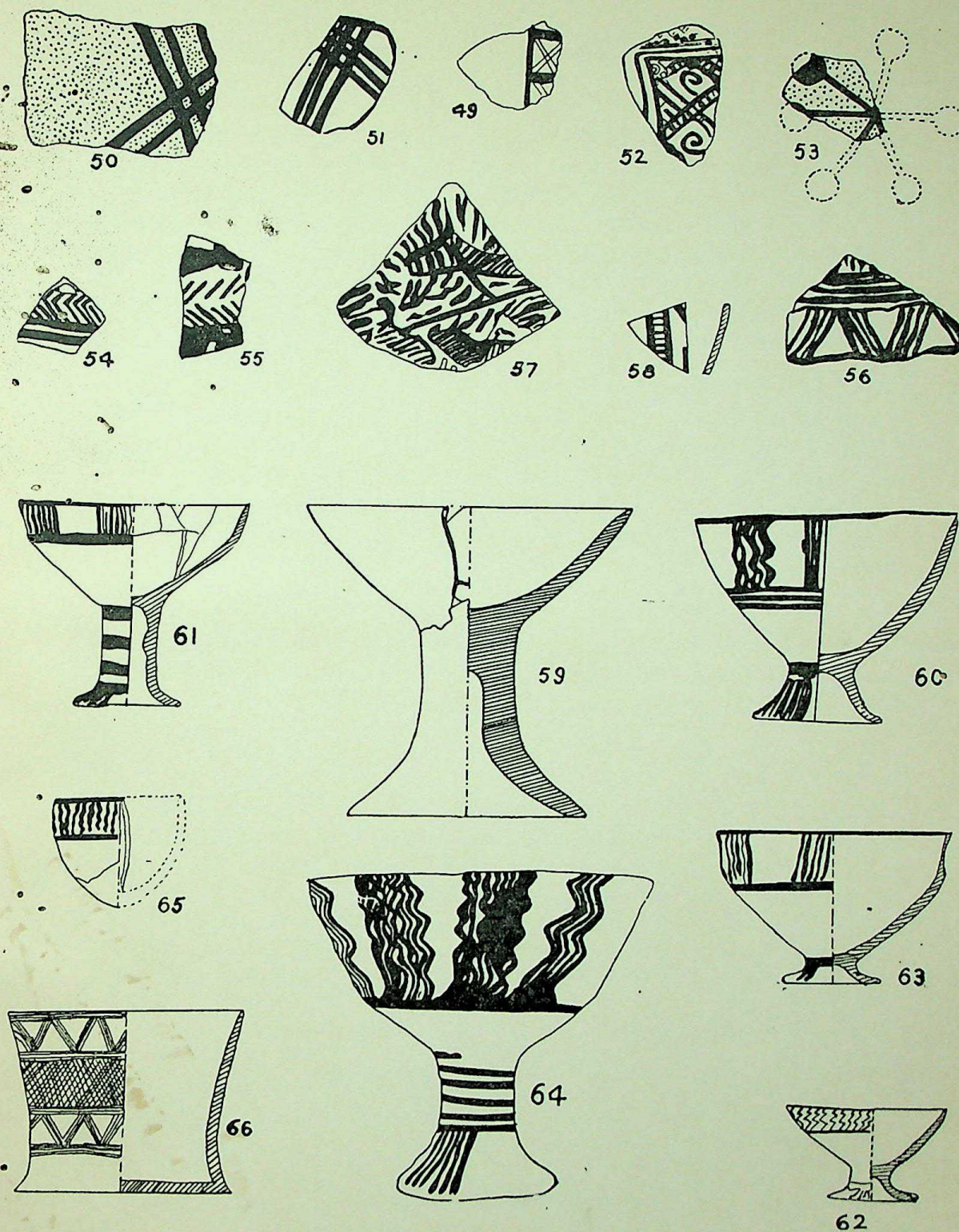


Fig. 118 Comparable pottery designs and forms from Baluchistan and Iran. (See p. 250)

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Baluchistan sites and Iranian border lands cannot be firmly dated. Striking indeed is the similarity of certain human, animal and bird motives and geometric designs—vertical wavy lines on bowls and the flag designs—between the Iranian (Bronze Age), the Kalat (Togau) ware³² and the Malwa Chalcolithic Pottery. (See Figs. 116-18 pp. 255-57). Though the range and number of these designs, might seem limited, at present, some more affinities in designs and forms are sure to be noticed when full reports on Rangpur, Ahar, Nagda, Prakash and Bahal are published, and more sites in Saurashtra, Rajputana, Malwa, Khandesh and the Deccan are explored.

On the other hand, we must have more stratigraphic evidence from Pakistan, Baluchistan, the Iranian border land and Iran itself to ascertain the stages by which, *if at all*, the Western influences filtered down eastwards into India. For, inspite of the similarity of certain forms and designs noticed above, the Iranian or Western fabrics in general differ fundamentally from those of India. The latter are coarser, not so compact and well-made and fired as the former. Secondly, very rarely, if at all, the Indian cups and bowls have handles and spouts. Even those from Mohenjo-daro, Harappa³³ and Chanhudaro³⁴ are comparatively poor indeed. Thus typically western features seem to have been lost in the long transit from west to east. With all these reservations then, the parallels between the Indian and the Western Asiatic, principally Iranian pottery, and a possible explanation thereof is here offered. It should be regarded as purely tentative, and not pressed too far.

One more fact is also to be remembered. Hitherto we do not know who the authors of these various Chalcolithic Cultures are. As has been pointed out³⁵, these have generally settled on the black or brown soil, in almost all the river valleys from Rajputana and Malwa in the north (leaving out N. Gujarat for which we have an adequate climatic and geographic explanation³⁶ to the Deccan (including Mysore) in the south. Except for their pottery, there is not much fundamental difference in their material

32. In particular, the formalised ibex or goat-horn design on the Togau ware, which Beatrice de CARDI says had a wide distribution, including Sind.

33. MARSHALL, John, *Mohenjo-daro and the Indus Civilization* Vol. II. pl. XXXIII. 13-20.

34. MacKAY, E.J. H., *Further Excavations at Mohenjo-daro*, Vol. II, Pl. XII. 14-20.

35. SANKALIA, H. D., "Excavations at Maheshwar and Nevasa and their possible bearing on the Puranic History". *The Sardha-satabdi Commemoration volume, 1804-1954* pp. 229-39 (Asiatic Society of Bombay, 1957).

36. SUBBA Rao, B., *Personality of India*, pp. 58-61.

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equipment. Their copper or bronze implements are of the most primitive type and nothing comparable to those of Western Asia³⁷. This might again imply colonisation by tribes or peoples having some other common bond or affinity as well. One of the theories is that these might represent the so-called Aryan or Puranic tribes³⁸, for instance, the Haihayas, with a number of their family members' names ending in *asva*, and Haihaya itself meaning a 'horse' or horse riders settling down in the Narmada Valley. Or else, these could be the aboriginal tribes—Nagas, pre-historic Andhras, Pulindas, Nisadas and Savaras³⁹.

However, these are pure and simple speculations. To understand these and other vital questions, we must have more tangible data besides pottery, particularly abundant skeletal material and some form of writing, if it was there. With this end in view, horizontal excavations are necessary and are being planned at Navdatoli and Nevasa.

37. See for instance GORDON, D. H., in *Iraq*, Vol. XIII (1951), p. 49, Fig. 2.

38. SANKALIA, H.D., *op. cit.*

39. For details, see *Ibid.*

APPENDIX I

Index to designs from Khandesh, Mālwa, Sind, Baluchistan and Iran

Sr. No.	Country	Site	Author	Reference.	
				Book	Illustration
1.	Sind	Ghazishah	N. G. MAJUMDAR	<i>Explorations in Sind. MASI. 48.</i>	Pl. XXVI. 24.
2.	Sind	Jhukar	Ernest J. H. MACKAY	<i>Chanhu-daro Excavations.</i>	Pl. XLVI. 28.
3.	Quetta	Kechi Beg.	Walter A. FAIRSERVIS, Jr.	<i>Excavations in the Quetta Valley, West Pakistan.</i>	p. 276, No. 48.
4.	Sind	Jhukar	MACKAY	<i>Chanhu-daro.</i>	Pl. XLVI. 37.
4a.	Iran	Sialk III	R. GHIRSHMAN	<i>Fouilles de Sialk, I.</i>	Pl. LXXXIV.A.41.
5.	Sind	Jhukar	MACKAY	<i>Chanhu-daro.</i>	Pl. XLVI. 43.
6.	Sind	Jhukar		<i>Ibid.</i>	Pl. XLVI. 41.
6a.	Khandesh	Prakāsh		<i>Indian Archaeology-A Review, 1954-55.</i>	Pl. XX. B.
7.	Sind	Jhukar	MACKAY	<i>Chanhu-daro</i>	Pl. XLVI. 30.
7a.	Iran	Sialk III	GHIRSHMAN	<i>Sialk. I.</i>	Pl. LXXX. A. 7.
7b.	Malwa	Nāgdā		<i>Indian Archaeology. A Review, 1955-56.</i>	Pl. XXII.
8.	Iran	Sialk III		<i>Sialk I.</i>	Pl. LXXXVI.D.21.
8a.	Khandesh	Prakāsh		<i>Indian Archaeology-A Review, 1954-55.</i>	Pl. XX-B.
9.	Sind	Amri	MAJUMDAR	<i>MA SI. 48.</i>	Pl. XVIII, 31.
10.	Sind	Amri		<i>Ibid.</i>	Pl. XVIII. 25.
11.	Gedrosia		STEIN, AUREL	<i>An Archaeological Tour in Gedrosia. MASI. 43.</i>	Pl. XXIV. Tk. N. 1.
12.	N. Baluchistan	Dabarkot	STEIN, AUREL	<i>An Archaeological Tour in Waziristan and Northern Baluchistan. MASI. 37.</i>	Pl. XVI. D. 9.
13.	Sind	Pandiwahi	MAJUMDAR	<i>MA SI. 48.</i>	Pl. XXVIII. 15.
14.	N. Baluchistan	Periano Ghundai	STEIN	<i>MA SI. 37.</i>	Pl. VI. p. 92.
15.	Gedrosia		STEIN	<i>MA SI. 43.</i>	Pl. XXVI.Siah.6.

Reference.

Sr. No.	Country	Site	Author	Book	Illustration
16.	Gedrosia	Mehi	STEIN	<i>MASI.</i> 43.	Pl. XXVII. Mehi. 11.
17.	N. Baluchistan	Dabar-kot	STEIN	<i>MASI.</i> 43.	Pl. XV. D.N. b.2.
18.	Quetta		FAIRSERVIS	<i>Quetta Valley.</i>	P. 274. 40,
19.	N. Baluchistan	Periano Ghundai	STEIN	<i>MASI.</i> 37.	Pl. VI. p. 90.
20.	Iranian Borderland		STEIN, AUREL	<i>Archaeological Reconnaissances</i>	
21.	Iran	Sialk II	GHIRSHMAN	<i>Sialk, I.</i>	Pl. LI. C. 10.
22.	Iran	Sialk II		<i>Ibid.</i>	Pl. LXXXII. D. 9.
23.	Sind	Jhhukar	MACRAY	<i>Chanhu-daro</i>	Pl. XXXIV. 23.
24.	Sind	Chanhu-daro (Harappan)		<i>Ibid.</i>	Pl. XXXIV. 13.
25.	Sind	Ghazishah	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXVI. 11.
26.	Iran	Sialk II	GHIRSHMAN	<i>Sialk, I.</i>	Pl. LXXXVI. B. 10.
27.	Iran	Sialk II		<i>Ibid.</i>	Pl. XL. C. 2.
28.	Sind	Lohri	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXIV. 21.
29.	Sind	Ghazishah		<i>Ibid.</i>	Pl. XXVII. 23.
30.	Sind	Pandiwahi		<i>Ibid.</i>	Pl. XXVIII. 27.
31.	Iran	Sialk III	GHIRSHMAN	<i>Sialk, I.</i>	Pl. LXXXVIII. D. 14
32.	Sind	Trihni	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXIII. 2.
33.	Sind	Pandiwahi		<i>Ibid.</i>	Pl. XXVIII. 3.
34.	Sind	Chanhu-daro	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXII.
35.	Gedrosia		STEIN	<i>MASI.</i> 43.	
36.	Sind	Lohri	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXIV. 34.
37.	N. Baluchistan		STEIN	<i>MASI.</i> 43.	Pl. 11. Kr. 9.
38.	N. Baluchistan		STEIN	<i>MASI.</i> 43.	Pl. XXXII. Maur. I.
39.	Sind	Pandiwahi	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXVIII. 44.
40.	Quetta		FAIRSERVIS	<i>Quetta Valley.</i>	P. 319, 564.
41.	Gedrosia		STEIN	<i>MASI.</i> 43.	Pl. III. Sh. Dr. 4.
42.	Iranian Borderland	Damba-koh	STEIN	<i>Reconnaissances.</i>	Pl. XXVII. Dam. i. 25.
43.	N. Baluchistan	Mehi	STEIN	<i>MASI.</i> 43.	Pl. XXIX. Mehi. ii. 42.
44.	N. Baluchistan	Thal.		<i>Ibid.</i>	Pl. XX. Thal. 4.

Reference.

<i>Sr. No.</i>	<i>Country</i>	<i>Site</i>	<i>Author</i>	<i>Book</i>	<i>Illustration</i>
45.	Iranian Borderland	Khurab	STEIN	<i>Reconnaissances.</i>	Pl. XVII. B. 1. 122.
46.	N. Baluchistan	Kundani	STEIN	<i>MASI.</i> 43.	Pl. X. k. 7.
47.	Iran	Sialk I	GHIRSHMAN	<i>Sialk, I.</i>	Pl. XLIV. A. 7.
48.	Iran	Dambakoh	STEIN	<i>Reconnaissances.</i>	Pl. xxviii. Dam. I. surf. 4.
49.	N. Baluchistan	Periano Ghandai	STEIN	<i>MASI.</i> 37.	Pl. VI. p. 88.
50.	Quetta		FAIRSERVIS	<i>Quetta Valley.</i>	P. 274. 32.
51.	Sind	Damb Buthi	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXV. 14.
52.	N. Waziristan	Majo. Pishin	STEIN	<i>MASI.</i> 37.	Pl. XXI. Mj. 1.
53.	Quetta	K. G. M.	FAIRSERVIS	<i>Quetta Valley.</i>	p. 273, 18.
54.	Sind	Pandi wahi	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXVIII. 36.
55.	Iranian Borderland	Tal-i-Pir	STEIN	<i>Reconnaissances.</i>	Pl. XXVIII. iii. 13.
56.	Gedrosia	Mehi	STEIN	<i>MASI.</i> 43.	Pl. XXII. Mehi. 10.
57.	Sind	Ghazishah	MAJUMDAR	<i>MASI.</i> 48.	Pl. XXVII. 20.
58.	Iran	Sialk I	GHIRSHMAN	<i>Sialk, I.</i>	Pl. X. LIV. C. 16.
59.	Iran	Hissar II B	Erich F. SCHMIDT	<i>Excavations at Tepe Hissar Damghan.</i>	Pl. XXVI. H. 4161.
60.	Iran	Hissar IC		<i>Ibid</i>	Pl. IX. H. 2887.
61.	Iran	Hissar IC		<i>Ibid</i>	Pl. IX. H. 3421.
62.	Iran	Hissar IIA		<i>Ibid</i>	Pl. XXII. H. 4458.
63.	Iran	Hissar IIA		<i>Ibid</i>	Pl. XXI. H. 4693.
64.	Iran	Hissar IC		<i>Ibid.</i>	P. 49. Fig. 39. H. 4713.
65.	Iran	Hissar IIIB.		<i>Ibid.</i>	Pl. XXXIX. H. 5017.
66.	Iran	Hissar IIIC		<i>Ibid.</i>	Pl. XLII. H. 3493.

APPENDIX II

IDENTIFICATION OF BONES FROM THE CHALCOLITHIC LAYERS

By

J. C. GEORGE

No.	7	Tooth of rat <i>Rattus rattus</i>	NVT	Md	I	Tr	I	B.7
No.	42	Lower jaw of the pig (<i>Sus Cristatus domesticus</i>)	NVT		I		I	H 3
No.	43	Lower jaw of goat (<i>Capra aegagrus</i>)	NVT		I		I	F.1(3)
No.	44	Fish vertebra	NVT		I		I	G(3)
No.	45	Pieces of Upper and Lower Jaws of Goat (<i>Capra aegagrus</i>)	NVT		I		I	H(3)
No.	46		NVT		I		I	H(3)
No.	47	Calcaneum of <i>Bos indicus</i>	NVT		I		I	H1(3)
No.	48	Incisor of <i>Bos indicus</i>	NVT		I		I	H(3)
No.	49	Canine tooth of pig (<i>Sus Cristatus domesticus</i>)	NVT		I		I	G(4)
No.	50	Incisor of <i>Bos indicus</i>	NVT		I		I	G(4)
No.	51	Incisor tooth of a kid (<i>Capra aegagrus</i>)	NVT		I		II	(4)
No.	52	Incisor of <i>Bos indicus</i>	NVT		I		I	H(4)
No.	53	Incisor of <i>Bos indicus</i>	NVT		I		I	H(4)
No.	55	Right lower jaw of <i>Bos indicus</i>	NVT		I		I	F(4)
No.	55A	Right lower jaw of a pig (<i>Sus Cristatus domesticus</i>)	NVT		I		I	(4)
No.	56	Anterior end of the lower jaw of a calf (<i>Bos indicus</i>)	NVT		I		I	F(5)
No.	57	Molar tooth of deer (<i>Cervus unicolor</i>)	NVT		I		I	F(5)
No.	58	Incisor of <i>Bos indicus</i>	NVT		I		I	F 5
No.	59	Incisor of <i>Bos indicus</i>	NVT		I		I	F 5
No.	60	Incisor tooth of <i>Bos indicus</i>	NVT		I		I	G 4
No.	61	Left lower jaw of <i>Bos indicus</i>	NVT		I		I	G 5
No.	62	Vertebra of fish	NVT		I		I	H 5
No.	62A	Jaw of <i>Bos indicus</i>	NVT		I			B 5
No.	63	Lower jaw of <i>Bos indicus</i>	NVT		I		I	F.1(6)
No.	64	Jaw of <i>Bos indicus</i>	NVT		I		I	F.6
No.	66	Upper molar tooth of <i>Bos indicus</i>	NVT		I		I	G1(7)

No. 67	Incisor tooth of <i>Bos indicus</i>	NVT	I	I	G.1(3)
No. 74	Lower jaw of pig (<i>Sus Cristatus domesticus</i>)	NVT	I	II	C(2)
No. 75	Fragment of a tooth of <i>Bos indicus</i>	NVT	I	II	A(2)
No. 76	Tooth of sheep, <i>ovis vignei domesticus</i>	NVT	I	II	A(2)
No. 77		NVT	I	II	C(3)
No. 78	Femur of rat <i>Rattus rattus</i>	NVT	I		C(3)
No. 84	Tooth of pig <i>Sus Cristatus domesticus</i>	NVT	III	V	B(3)
No. 85	Jaw pieces of a lizard— <i>Varanus</i>	NVT		V	B(3)
No. 86	Carapace of turtle (<i>Trionyx gangeticus</i>)	NVT	III	V	B(1)
No. 87	Lower molar tooth of <i>Bos indicus</i>	NVT	III	V	B(3)
No. 89	Lower jaw of a Calf (<i>Bos indicus</i>)	NVT	III	V	B 6
No. 90	Molar tooth of <i>Bos indicus</i>	NVT	III	V	B 3
No. 91	Molar tooth of <i>Bos indicus</i>	NVT	III	V	B(3)
No. 92	Piece of the metacarpal of <i>Bos indicus</i>	NVT	III	V	B.3
No. 103	Bones of rat <i>Rattus rattus</i>	NVT	III	IV	6
No. 105	Right ilium of calf (<i>Bos indicus</i>)	NVT	II	III	7
No. 108	Tooth of <i>Bos indicus</i>	NVT	II	III	D(10)
No. 109	Tooth of pig <i>Sus Cristatus domesticus</i>	NVT	II	III	B(11)
No. 110	Lower jaw of rat <i>Rattus rattus</i>	NVT	II	III	B(11)
No. 111	Lower jaw of <i>Varanus monitor</i>	NVT	II	III	B(12)
No. 112	Hypoplastron of turtle <i>Trionyx gangeticus</i>	NVT	II	III	C.13
No. 113	Incisor of <i>Bos indicus</i>	NVT	II	III	C.14
No. 114	Lower jaw of calf (<i>Bos indicus</i>)	NVT	II	III	C13
No. 4024	Does not appear to be bone material	NVT	I	I	G1(7)
No. 4605	Incisor tooth of goat <i>Capra aegagrus</i>	NVT	II	III	D(10)

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